

JUNE, 1961



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1C7	3/- 7a £1	7B8	7/6
1D5GT	5/- 5a £1	7C5	5/- 5a £1
1D8	7/6 3a £1	7C7	2/- 12a £1
1H5	5/- 5a £1	7F7	5/- 5a £1
1H6	5/- 5a £1	7W7	2/6 10a £1
1K4	5/- 5a £1	7E6	3/6 7a £1
1K5	5/- 5a £1	12A6	4/- 6a £1
1K7	5/- 5a £1	12AH7	5/- 5a £1
1N5	5/- 5a £1	12AT7	7/6 3a £1
1P5	2/- 10a £1	12C8	5/-
1Q5	5/- 5a £1	12J5	5/- 5a £1
1S5	10/-	12K8	5/- 5a £1
2A5	7/6 3a £1	12SA7	10/-
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2D21	10/-	12SG7	5/- 5a £1
2X2/879		12SK7	5/- 5a £1
3A4	10/-	12SL7	7/6 3a £1
3AP1	35/-	12SR7	5/- 5a £1
3BP1	45/-	14A7	3/6 7a £1
3Q5	5/- 5a £1	25L5	5/-
5R4GY	£1	117Z6	5/- 5a £1
5Y3GT	12/6	16Z5	5/- 5a £1
6A3	7/6 3a £1	35T	30/-
6A7	10/-	717A	7/6 3a £1
6AC7	2/6 10a £1	815	£1
6AG5	5/- 5a £1	830B	15/-
6AJ5	7/6 3a £1	832A	19/6
6AG7	12/6	885	5/-
6AM5 (EF91)	10/-	954	5/- 5a £1
6AM6 (EF91)	10/-	955	5/- 5a £1
6B4	10/-	956	5/- 5a £1
6B7	10/-	958A	2/6 10a £1
6C4	5/- 5a £1	9003	7/6 3a £1
6C5	5/- 5a £1	AV11	2/11
6C6	5/- 5a £1	EA50	2/- 10a £1
6D6	5/- 5a £1	EF36	5/- 5a £1
6E5	5/- 5a £1	EF39	5/- 5a £1
6G6	7/6 3a £1	QE04	10/15/-
6H6	2/- 12a £1	QV04/7/15/-	
6J6	10/-	UL41	7/6 3a £1
6K7	5/- 5a £1	VR53	5/- 5a £1
6L7	5/- 5a £1	VR57/EK2	
6R7	7/6 3a £1		7/6 3a £1
6T7	7/6 3a £1	VR100	5/- 5a £1
6Z7	7/6 3a £1	VR101	5/- 5a £1
68C7	7/6	VR102	5/- 5a £1
68F5	7/6 3a £1	VR103	5/- 5a £1
68F7	7/6 3a £1	VR136	2/- 12a £1
68G7	12/6	VR150	12/6
68H7	4/- 5a £1	VT52	5/-
68Q7	12/6	VT127	4/11 5a £1
68S7	7/6 3a £1	PE Cell	1P30, 10/-

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6Y6, 5/- each	5 for £1.
30, 1/3 each.	805, £3 each.
68N7, 12/6 each.	68L7, 12/6 each.

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SCR522 28v. Genemotor power supply,
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T1154 Transmitters. Complete with
valves and meters. Good condition.
Few only. 45/-, 5/- packing charge.

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Field Strength Meters. 100 to 150 Mc.
(SCR522 type). New. £5.

Signal Generators, SCR522 type. 100
to 150 Mc. £6/10/0.

Test Meters, 0-1 mA. in case with plug
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English Filter Chokes, 40 mA., 100 ohm
resistance ... 3/6 each

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SCR522 Receivers, less valves ... £2

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3-4 Mc. range	£7
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AMATEUR RADIO

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EDITORIAL**CONVENTION TIME**

WE are probably a little early to remind members that Convention time is coming around again. It won't be until Easter 1962, but since it is—or at least it will be by Easter 1962—three years since your Federal Council met together to discuss and resolve your problems, it seemed high time to remind you all that it is now time for you to take action on your particular "gripe".

Your Federal Constitution, as it is written today, provides for a specified time in which agenda items can be submitted to the Federal Executive so that they can, in turn, be promulgated to the Divisions of the W.I.A. for submission to you, the member, to discuss and direct your Council in the manner you desire in relation to each agenda item. From now on to December is the time!

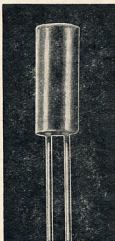
Yes siree! From now on to December is the time for you to submit to the Council of your Division any problem of a national nature which you would like to have discussed and resolved by your Federal Council. You—and you only—know what you would like to achieve in our world of Amateur Radio! You may have been "gripping" for the last many months that Amateurs should be able to do this, that or the other thing, but you can't get any sense out of anyone. OK! Now is really your time! You put pen to paper and place your problem before the Council of your Division. Your hard working Council will then give it the round of the Conference table, and if they think it a matter to table before the Federal Council (i.e. a matter deemed other than a local administrative problem), then they will "knock it into shape" as an agenda item and forward it to the

Federal Executive of your Institute for inclusion in the agenda of the 26th Federal Convention of the Wireless Institute of Australia to be held during the year of the British Empire Games in Perth 1962.

Sure! Whilst the majority of members have been voting against the holding of a Convention these past few years, your Federal Council has not stopped working for you and what you want. They have had you represented at the Geneva Conference of the International Telecommunications Union (1958) in defence of your frequencies; they have later still had you represented on the Postmaster-General's Frequency Allocations Review Committee; they have pursued a policy for the protection of your bands for you; they have been constantly reviewing and resolving your problems when they are known.

But as the science progresses and conditions change, more problems arise and you are the one to have intimate contact with some of these changes. Your answer is to have them presented before your Federal Council. The Federal Convention next year in Perth is an ideal time if you act NOW! What do you want from Amateur Radio that you haven't got now? Put it on paper to your Divisional Council and they will put it in due form before your Federal Council. Your Federal Council will decide the issue at the highest level. But it's up to you to put your problem before the Institute constitutionally if you want it heard. It's no good "gripping behind the curtain" if things aren't done the way you want them if you don't do things the right way yourself. Now's your real opportunity! Let your Council have it!

FEDERAL EXECUTIVE.



zener diodes

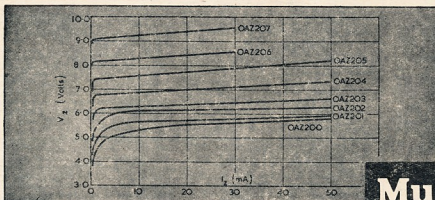
voltage
stabilisation
down to
exceptionally
low currents



5% Tolerance Range	VOLTAGE (V)		
	Nominal	Min.	Max.
OAZ200	4.7	4.4	5.0
OAZ201	5.1	4.8	5.4
OAZ202	5.6	5.3	6.0
OAZ203	6.2	5.8	6.6
OAZ204	6.8	6.4	7.2
OAZ205	7.5	7.1	7.9
OAZ206	8.2	7.7	8.7
OAZ207	8.1	8.6	9.6
15% Tolerance Range			
OAZ208	4.2	3.3	5.0
OAZ209	5.1	4.4	6.0
OAZ210	6.2	5.3	7.2
OAZ211	7.5	6.4	8.7
OAZ212	9.1	7.7	10.6
OAZ213	12.2	9.4	15.0

Voltage stabilisation down to exceptionally low currents is provided by Mullard Zener Diodes. This feature is particularly marked in the higher voltage types where stabilisation is provided at currents as low as one milliamp. In all types the dynamic impedance is low and the zener characteristic is very sharp.

Two ranges of these diodes are available. One with approximately $\pm 5\%$ tolerance voltages, and the other with approximately $\pm 15\%$ tolerance voltages. In both ranges the change of zener voltage with temperature is only very small, and the operating temperature is from -55 to $+150^\circ\text{C}$.



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N

BENDIX FREQUENCY METER BC221 (SCR211 AUST.)

R. B. WALLACE,* VK3UW

THE desired frequency (when the frequency meter is used to calibrate a transmitter), or the observed frequency (when the frequency meter is used to measure an unknown frequency), may often fall between the value listed in the calibration book. To aid in the calibration of the proper dial setting or the frequency corresponding to these intermediate values, the following method (called "interpolation") should be used.

EXAMPLE A:

The observed dial setting is 2754.2. This setting lies between the two successive book values 2756.3 and 2752.7. The corresponding frequencies for these book values are 195.0 and 194.9 kc. (fundamental) respectively.

Problem: To find the unlisted frequency corresponding to a dial setting of 2754.2.

Solution: The facts are stated numerically in the following form:—

Dial settings—
Diff. 3.6 { 2756.3
2754.2 } Diff. 1.5
2752.7

Corresponding Frequencies (kc.)—
195.0
F? } Diff. 0.1 kc.
194.9

F = unknown frequency.

Therefore—
(i.) $0.1 \text{ kc.} \times 3.6 \text{ div.} = 0.0277 \text{ kc.}$
per dial division.

- (ii.) $0.0277 \text{ kc.} \times 1.5 \text{ div.} = 0.0415 \text{ kc.}$ change from lowest calibration frequency to F.
(iii.) $194.9 \text{ kc.} + 0.0415 \text{ kc.} \text{ change} = 194.9415 \text{ kc.} = F.$

In the above problem, a change of 3.6 dial divisions (from 2752.7 to 2756.3) causes a change of 0.1 kc. in frequency (from 194.9 to 195.0 kc.). This represents a change of 0.0277 kc. per dial division, (i.) above. Since there are only 1.5 dial divisions between 2752.7 and 2754.2, the difference in frequency between these settings will equal 0.0277 kc. $\times 1.5 \text{ div.}$, (ii.) above. This difference (0.0415 kc.) is then added to the lower known frequency (194.9 kc.) at the dial setting of 2752.7, (iii.) above, to give the unknown frequency, F.

EXAMPLE B:

It is desired to set the frequency meter to a frequency of 194.95 kc. This frequency lies between the two successive book values 195.0 and 194.9 kc.

Problem: To find the dial setting which corresponds to the frequency 194.95 kc.

Solution: The facts are stated numerically in the following form:—

Dial settings—
Diff. 3.6 { 2756.3
D? } Diff. 0.05 kc.
2752.7

Corresponding frequencies—
195.0
194.95 } Diff. 0.1 kc.
194.9

D = unknown dial setting.

Therefore—

- (i.) $3.6 \text{ div.} \div 0.1 \text{ kc.} = 36 \text{ dial divisions per kc.}$
(ii.) $36 \text{ div.} \times 0.05 \text{ kc.} = 1.8 \text{ dial divisions—change from lowest dial reading to D.}$
(iii.) $2752.7 + 1.8 = 2754.5$, the dial setting D for a frequency of 194.95 kc.

In the above problem, changing the dial setting from 2752.7 to 2756.3 (3.6 dial divisions) causes a change of 0.1 kc. in frequency (from 194.9 kc. to 195.0 kc.). This represents a change of 36 dial divisions per kc., (i.) above. An increase in frequency from 194.9 kc. to 194.95 kc. is a change of 0.05 kc. Since a change of 36 dial divisions causes a change of 0.1 kc. in the frequency, an increase of 0.05 kc. requires a change of $36 \text{ div.} \times 0.05 \text{ equal } 1.8 \text{ dial divisions}$, (ii.) above. This increase (1.8 div.) is then added to the dial reading (2752.7) corresponding to the lower known frequency (194.9 kc.) to obtain the dial setting D corresponding to a frequency of 194.95 kc., (iii.) above.

The methods shown are accurate for all frequency columns (including harmonics) in the calibration book.

[The reader is referred to Jan. '61 "A.R." for comments regarding accuracy.—Ed.]

* 17 Gilbert Street, Wodonga, Vic.

Technical Correspondence

SCR211 FREQ. METERS

Editor "A.R.," Dear Sir,

A short note concerning the Editorial postscript to my article on Frequency Meters in the January issue.

So far as I can ascertain, the "official handbook" on SCR211 Meters is War Dept. Technical Manual 33 A1-5-19-1, formerly 40SCR211-5, or Army TM11-300. Anyway, these publications purport to describe SCR211 Frequency Meters models A, B, C, D, E, F, J, K, L, M, N, O, P, Q, R, T, AA, AC, AE, AF, AG, AH, AJ, AK, AL and AN. It is clear from para 3 of this handbook that the likely error of such equipment is 0.34% at 4 Mc.

I am aware that there is a U.S. Navy document N.A.V.A.E.R. 08-5Q-38 and 45 which relates to the LM13 and 14 series frequency meters, and which ascribes magical accuracy to such equipment, as you say 0.01% at 2-20 Mc. and 0.02 on the low band.

It is obvious that the LM and SCR211 series equipments are very similar, particularly in the frequency determining circuitry and in the important

mechanical aspects. Such differences as occur are largely the result of adding modulation, and will not improve (or degrade) accuracy significantly.

The crystal reference in both equipment is virtually identical, having a temp. coefficient of about 1 cycle per degree, and supposedly being set during calibration to within 5 cycles of reference.

The dial mechanism and condenser are identical, BUT the Navy admit to the presence of up to 0.3 division backlash, whilst the Army and Air Force eliminate the effect of this by clockwise rotation to the final setting. Nevertheless, the Naval accuracy figure is better!

The point to stress is that Tech Orders are NOT always infallible, particularly if the statistical background is not known. For example, the U.S.A.F. appreciation of the effect of random inaccuracies in frequency may be more highly developed than that of the "fish-heads". As a result, they MAY publish error figures assessed at the 95% level, against a possible say 50% level for the Navy. This could account for a factor of about 3 between figures published for the SAME equipment!

Frankly, I don't know the basis of calculation for either of the above-

mentioned manuals, but I do know that on my experience, I am not prepared to accept that LM series equipment is significantly different to SCR211 in regard to accuracy, re-set or otherwise.

Whilst the editorial P.S. ascribes a good capability to all SCR211 types, quite clearly the fellow who makes them doesn't!

My plea is simply to ensure that we don't fall into the trap of thinking these portable freq. meters are secondary standards, whose accuracy is 26 c.p.s., or 0.01%. The fact is that the great majority of such boxes, particularly the models on the disposal market, just won't make it!

In such circumstances there is a need for official band edge marker transmissions, particularly as I.T.U. requires all sideband components to be within the allotted channel. To be safe on this, and to recognise frequency measuring errors, can well leave the end of each band unused for say 10 kc. Personally, I am not that timid, but there is little defence if a monitoring station measures, on secondary standard equipment, out-of-band transmissions!

—C. G. Harvey.

A SIMPLE CHASSIS BENDING TOOL*

C. H. L. EDWARDS, G8TL

Modulator Design with OC26 Transistors

Publication Committee member, VK-3UJ, whose name appeared at the head of the reprint, "Modulator Design with OC26 Transistors," has pointed out that credit for the article should be given to the author, Mr. J. R. Goldthorp, of Mullard Australia Pty. Ltd., who published the original in Mullard "Outlook," Australian edition. Our apologies to Mr. Goldthorp for the error made.

The following corrections to the reprint in May "A.R." should be made: Column 2, line 9, "x 50" should be deleted; column 2 line 13, "— 0.21V" should be inserted; page 7, column 1, lines 3 and 4, "frequency cut-off" does not accurately describe the symbol "fae" which appeared in the original article; page 7, column 1, line 9, "12K ohm" should read "1.2K ohm."

Mr. Roudie has suggested that a 200 to 500 μ F. condenser be added across the battery supply to the modulator to keep the power supply impedance low under varying conditions.

REMEMBRANCE DAY CONTEST

12th and 13th AUGUST, 1961

1800 hours to 1759 hours E.A.S.T.

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. Cnt.	No. Times	Call	Cer. Cnt.	No. Times
VK8RU	2	353	VK6KW	4	302
VK6MK	43	248	VK4HR	12	192
VK5AB	42	243	VK4RW	23	184
VK4FJ	21	221	VK3BZ	3	176
VK3WL	14	211	VK3EE	50	171
VK3ATN	26	204	VK3EE	10	163

C.W.

Call	Cer. Cnt.	No. Times	Call	Cer. Cnt.	No. Times
VK3KB	10	289	VK4HR	4	215
VK3CX	26	279	VK3XU	45	213
VK4FJ	29	264	VK7LZ	17	212
VK3NC	18	236	VK6B	21	211
VK3FH	15	226	VK3YL	39	203
VK3BZ	6	222	VK3RX	23	195

New Member:

VK3AWP 69 133

Amendments:

VK4SD	52	172	VK3OW	58	146
VK3XO	43	168	VK3ARX	66	142
VK4RW	47	162			

OPEN

Call	Cer. Cnt.	No. Times	Call	Cer. Cnt.	No. Times
VK3ACX	6	289	VK3BZ	4	231
VK4FJ	32	267	VK3HG	3	225
VK3RU	5	265	VK3WL	23	225
VK6MK	14	252	VK7LZ	23	223
VK3NC	77	238	VK3XU	61	221
VK4HR	7	233	VK6KW	13	216

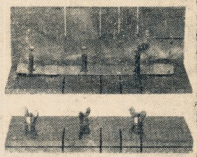
New Member:

VK3APK 62 125

Amendments:

VK4RW	52	205	VK3HL	75	160
-------	----	-----	-------	----	-----

pieces of aluminium cut from the corners between the bolts, cutting them to size if necessary and keeping them behind the slots to allow the chassis material to slide in unhindered. On top of them, place another very thin piece of metal (such as tin) and bolt the plates together again. The slot between them will now be the thickness of the aluminium to be bent plus the "ten thou" clearance to allow the material to slide in.



Two views of the tool. Below, closed; above, opened to show the pieces of aluminium and tin placed between the plates.

The metal to be bent is then pushed between the faces of the tool up to the bend line for one of the longer sides. Then, keeping the aluminium flat on the bench, bend upwards with the jig until it is at right angles to the metal. The other long side should next be bent in a similar manner.

To make the last two bends (the short sides) the slots in the tool are used, the previously bent sides being in line

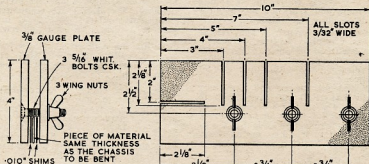


Fig. 1.—Layout of the chassis bending tool.

MAKING A CHASSIS

To bend a chassis, the following procedure should be adopted. Mark out the width and length of the chassis to be made plus twice its depth. Cut out the four corners and put the pieces aside for use later. Next, open up the jig by removing the wing nuts and sliding out the bolts. Put three of the

with one edge of the tool and an appropriate slot. If care is taken, a neatly bent chassis will result.

The same type of tool can be made from wood if desired, though it will obviously not last so long as the bending edges will wear more quickly. However, they could be planed down from time to time. It is advisable to use plywood, eleven ply $\frac{1}{8}$ " thick being suitable.

* Reprinted from R.S.G.B. "Bulletin," Nov. '58.

3 Kc. CUT-OFF LOW-PASS FILTERS:

R. G. ROPER, VK5PU

THE purpose of this article is to present a few representative audio low-pass filter circuits; anyone desirous of designing their own filters to particular specifications is referred to the section on filters in the A.R.R.L. Handbook.

The reacting of transmitter information to a minimum bandwidth is becoming more and more of a necessity on today's crowded bands. By using a filter with a cut-off frequency of 3 Kc., very little voice individuality is lost, but the spectrum occupied by the transmission is reduced to about one-third that occupied by a rig with a "wide open" modulator. Audio filtering is also a "must" in s.s.b. phasing-type rigs. Audio phase-shift networks of the type normally used by Amateurs produce the desired output phase relationships only over a limited audio range. If the audio input to such phase-shift networks contains frequencies outside the 300 cycles to 3 Kc. limits, splatter and insufficient suppression of the unwanted sideband will result.

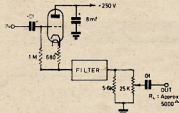


Fig. 1.—Suitable circuit for driving any of the filters mentioned.
Max. input equals 5 volts peak to peak

If low-level clipping is used to increase the average audio content of a signal, a low-pass filter after the clipper is essential to attenuate the higher order harmonics generated in the clipping stage.

Attenuation of low frequencies is easily accomplished by the use of low values of coupling capacitors in the early audio stages, or by the use of a 150K load resistor for a crystal microphone (the latter being a dodge used by Phil Williams in his s.s.b. rig).

Sufficiently sharp top cut is not so easily achieved, however, and this has proved a bugbear in the past. Most Amateurs have access to an RC bridge which will enable them to select 2% capacitors, but to wind inductances to the required tolerance is impossible without suitable test gear, and a time-consuming process even with such instruments available.

The production by two manufacturers of suitable ferroxcube pot cores has removed the guesswork from inductance winding for the Amateur, the only prerequisite for success being the ability to count turns.

Limited stocks are available of Mul-
lard Ferroxcube Pot Cores type LA1.

price 14/6 including sales tax. These pot cores are machined to optical tolerances, each core having individually adjusted gap so that the turns per millihenry can be given to an accuracy of 1%.

The formula for calculation of the number of turns (n) required to produce an inductance of L millihenries on an LA1 pot core is

$$n = 52 \sqrt[3]{L}$$

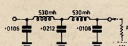


Fig. 2.—Low-pass filter, 3 Kc. cut-off, 30 db. per octave attenuation.

In the filter circuits following, certain enamelled wire gauges have been specified. Larger diameter wire, or silk or cotton covered wire of the specified gauge cannot be used, since the bobbins will not then take sufficient turns to produce the required inductance. Lighter gauges than specified may be used, but Q values will suffer because of the increased resistance of the windings. The available winding area is 0.05 sq. inch.

Because of the tolerances involved in grinding, the outsides of the cores are marked so that the ground faces can be matched when the cores are re-assembled.

Attention is drawn to the fact that all the filters described match to 5K loads. The required inductance values for constant K section filters are directly proportional to the load resistance; larger inductances mean more turns, and hence smaller wire with higher resistance for a given winding area. This results in lower overall Q. Distributed capacities also play a more important part at higher impedances.

Because of core saturation, these pot cores can only be used at low levels. As a filter is progressively overdriven, its cut-off frequency tends to rise, and the filter itself produces clipping and higher order harmonics. In the filters described, up to 30 volts peak to peak can be handled with negligible distortion. Note that the driving circuit shown is only capable of handling up to 5v. peak to peak.

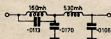


Fig. 3.—Low-pass filter, 3 Kc. cut-off, m-derived end section. Rejection notch at 3750 cycles.

The all-enclosing nature of the pot core ensures that negligible external field is created by the inductances, and effectively shields against hum pick-up. They may be stacked or placed as layout decrees, without any regard to possible coupling. (Mounting of filters on plate transformers may be tempting fate a little too much. However, reasonable separation from power transform-

ers is a necessity for low level audio stages anyway; if hum does not affect the associated circuitry, it will not be picked up by the pot cores.)

A suitable circuit for driving any of the filters given is shown in Fig. 1.

The performance of the two filters (Figs. 2 and 3) is comparable, with Fig. 3 having a sharper cut-off. However, Fig. 3 filter is more prone to ringing if not preceded by sufficient bass attenuation.

Capacitance tolerances in Figs. 2 and 3 are $\pm 5\%$ of stated value (all values given are in microfarads). In Fig. 4 the tolerance is $\pm 2\%$. A Philscope will give the required 2% accuracy. At these impedances and frequencies, reputable brand paper capacitors are satisfactory; mica's show greater stability with temperature and age.

Two "ultimate" low-pass filters (Fig. 4) have been built using a mixture of mica and paper capacitors paralleled up to give the right values, and these have been operating satisfactorily 24 hours a day for six months.

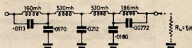


Fig. 4.—"Ultimate" low-pass filter, 3 Kc. cut-off. Rejection notches at 3750, 4300 cycles. Passband is flat to 3 Kc., falls to -54 db. at 3.7 Kc., and attenuation remains greater than this at all higher frequencies.

INDUCTANCE TABLE

This table is compiled for the use of LA1 type pot cores, using the formula $n = 52 \sqrt[3]{L}$ mentioned earlier:—

Inductance Milli- henries	n (No. of Turns)	Enamel B. & S.	Near- est S.W.G.
160	655	34	38
186	712	35	39
530	1196	38	42

1960 "CQ" CONTEST PHONE RESULTS

All Band—Single Operator		
VQ4DT	558,285	pts.
Multi-Operator—Single Transmitter		
4X4GB	729,135	pts.
Multi-Operator—Multi-Transmitter		
K2GL	383,112	pts.
Single Band Leaders		
28 Mc. LUIDAB	126,808	pts.
21 Mc. VQ4RF	214,389	pts.
14 Mc. CX2CO	333,168	pts.
7 Mc. YQ9CN	3,367	pts.

Single Operator—Australia

Number groups after call letters denote the following: Band, final score, number of QSOs, zones and countries.

VK3TL	14	1,650	30	12	13
VK4DD	14	24,444	113	32	52
VK5AB	14	24,691	126	26	46
VK6RU	A	61,525	206	40	67
VK7WA	A	3,619	42	21	26

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TYPE PT1870.—Primary: 230 or 240 volts to high, medium or low taps. (Overwound primary.) Suitable for switching with non-shorting contacts.

Secondary: 1: 850, 750 or 600 volts per side of c.t., depending on primary tap selected. D.C. load current 200 mA. continuous or 250 mA. part intermittent with choke input filter.

Secondary: 2: 4.5 to 6 volts at 0.3 amp. for pilot lamp. For use with 5R4GY rectifier, choke input filter.

TYPE PT1400.—Primary: 200, 220, 230, 240 volts.

Secondary: 565, 500, 425 volts per side of c.t., 250 mA. condenser input filter.

Filaments: 2 x 6.3v. (3a.), 2 x 2.5v. (3a.), 5v. (3a.). Horizontal mounting.

TYPE PT1371.—Primary: 200, 220, 230, 240 volts.

Secondary: 1000, 850, 750, 600, 500 volts per side of c.t. 300-400 mA. choke input filter.

TYPE PT1305.—Primary: 200, 220, 230, 240 volts.

Secondary: 2.5v. c.t. 10a. for 2 x 868/A fls. Max.: D.C. wkg. 3000 volts.

TYPE PT1516.—5 v. at 3 a., 1000 v. D.C. working. For use with h.t. power supply and high-level negative peak clipper filament voltage.

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TYPE Z3044.—12 Henrys 200 mA. D.C. resistance = 165 ohms.

TYPE Z3045.—10 Henrys 250 mA. D.C. resistance = 130 ohms.

TYPE Z3046.—10 Henrys 300 mA. D.C. resistance = 90 ohms.

TYPE Z3047.—5-15 Henrys 250-50 mA. D.C. resistance = 70 ohms.

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" 66 MA	£11/3/6
" 66 MD	£9/3/0
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NATIONAL FIELD DAY CONTEST 1961 RESULTS

FORTUNE smiled on the National Field Day Contest this year in so far as the weather was concerned as it was much better than it was last year and in consequence portable operation was much more pleasant. It was pleasing to see the increase in the number of multiple operator stations working portable in the Contest. Some of these were very elaborate and must have required very careful planning to cover every eventuality in the field. These stations in general made high scores and judging from the logs, there was also associated a high measure of fun and experience.

The highest score in Section A (single operator, phone) was made by VK7TT with 467 points, followed by VK2AAH with 382 points. Section B (single operator, c.w.) was poorly contested and in this section top score was made by VK5XK with 433 points. The highest score in Section C (multiple operator, open) was made by the VK5LZ group with 1,550 points and closely followed by the VK3APC group with 1,510 points. VK3AKN gained highest score in Section D with 690 points from VK-2YN who gained 475 points. D. Grantley gained the highest score in the receiving section with Miss Martin in second place.

A vast array of equipment was assembled in the field during the weekend with the multiple operator stations combining the resources of a number of operators. VK2ARZ and VK2ABB used a v.f.o. with a 1625 p.p.s. VK3APC left nothing to chance and had duplicate stations available for most bands two home brew tx working on 3.5 and 14 Mc., three Type 3 Mk. II Transceivers for 3.5 and 7 Mc., and another home-brew tx for 144 Mc. The receivers included a BC342, a Collins and an Eddystone. VK3ADW at Mt. Blackwood used a 122 as the basis of the station and worked on five bands with five aeriels. VK3CS, with six operators, worked on five bands. VK3ASC, with five operators, used home built tx's on 7 and 50 Mc., a Panda Cub on 3.5 and 14 Mc., and a BC925A on 144 Mc. Receivers included an HRO, AR8 and an A.W.A. Communications rx. Long wire aeriels were used on 3.5 and 14 Mc., a Windom on 7 Mc., a Halo on 50 Mc. and a three element beam on 144 Mc.

VK4CS also used a Windom on 7 Mc. and a two element beam on 144 Mc. Receiver was an AR8BD with a car radio and converter also. Three groups of operators worked at VK5LZ at Blacktop Hill. Group one worked on 7, 21 and 28 Mc., group two on 3.5 and 14 Mc., and group three on 50 and 288 Mc. Receivers included an Eddystone 750, CR100, a Super-regen. and a converter combination on 50 and 288 Mc. Aerials included dipoles on 3.5, 7 and 14 Mc. and Yagis on 50 and 288 Mc. VK6VP, with five operators, used a Collins and a Celoso tx. The receiver line-up included a Collins 75A4, a Collins 75A1, a HRO, and a BC348. All this was housed in a caravan and a tent. VK7JB and two other operators used a 122 set and a BC342N receiver on 3.5, 7 and 14 Mc. bands.

In the single operator sections, the equipment used was much simpler. VK2AAH used a modified BC358A tx with an input of 22 watts from a transistorised DC/DC converter. Rx was a BC453 with a crystal locked converter. He used an 8 ft. centre loaded whip mounted on the car as aerial. VK3HE used a Type A Mk. III. Transceiver with 4-5 watts input to a 130 ft. antenna. VK4OL worked on 7 Mc. only with 3.5 watts input. VK5AQ used modified Command and No. 19 set on 3.5, 7 and 14 Mc. VK7TT used a No. 22 transceiver on 3.5 and 7 Mc. In the c.w. section, VK2ASZ went camping with a Type 3 Mk. II. set as transmitter and a BC342 rx. Both VK5XK and VK7LJ used Type 3 Mk. II. Transceivers.

Federal Contest Committee, W.I.A.

AWARD WINNERS

Section A (Portable, Phone)

VK2AAH—H. F. Burfoot	382 pts.
VK3HE—H. G. Hodge	344 "
VK4OL—A. J. Hansen	211 "
VK5AQ—T. F. Robbins	359 "
VK7TT—T. J. Tonga	467 "

Section B (Portable, C.w.)

VK2ASZ—R. L. Lear	248 pts.
VK5XK—A. J. Hewitt	433 "
VK7LJ—L. R. Jensen	238 "

Section C (Portable, Multiple Ops.)

VK2ARZ—M. R. Bruce	602 pts.
VK3APC—Moorabbin and District Radio Club	1510 "
VK4CS—Northern Command Signals Radio Club	262 "
VK5LZ—Elizabeth Amateur Radio Club	1550 "
VK6VP—V.h.f. Group of W.A.	878 "
VK7JB—J. Batchler	763 "

Section D (Fixed Stations)

VK2YN—J. R. Watt-Bright	475 pts.
VK3AKN—D. G. Baugh	690 "
VK5JT—J. Kilgariff	150 "
VK7KS—C. K. Spiegel	435 "

Section E (Receiving)

L2022—D. M. Grantley	560 pts.
L3074—J. M. Hilliard	305 "
VK4-SWL—C. H. Thorpe	300 "
VK5-SWL—Miss O. J. Martin	360 "
L7007—M. L. Jenner	300 "

INDIVIDUAL SCORES

Section A

VK2AAH	382 pts.	VK3AUC	87 pts.
2ASZ	341 "	30H	61 "
2RJ	185 "	4OL	211 "
3HE	344 "	4UX	205 "
3AHN	237 "	4HZ	67 "
3XN	166 "	5AQ	359 "
3ZCG	150 "	5GG	125 "
3ARL	144 "	7TT	467 "
3JO	134 "	7JO	116 "

Section B

VK2ASZ	248 pts.	VK5XK	433 pts.
2AAH	47 "	7LJ	238 "
3AKN	chk. log	7CH	203 "

Section C

VK2ARZ	602 pts.	VK2ABB	602 pts.
VK3APC	Moorabbin & District Radio Club (operators: VKs 3LC, 3JL, 3AFQ, 3ACS, 3ZIP, assisted on Sat. by 3KE,		

3APD, 3NZ, 3AWO, and on Sun. by 3NQ, 3JE, Junior helps: J. Chandler, J. Antennella, G. Comber)	1510 pts.
VK3ADW, VKs 3YQ, 3AEL, 3ZEO and 3ZCZ	774 pts.
VK3CS, 3ATY, 3ZAI, 3ADL, 3AZR, 3AKT and 3AHJ (Sat. only) 721 pts.	
VK3ASC, 3OM, 3UJ, 3RN, 3ARZ, and 3ZFO	693 pts.
VK4CS, Northern Command Signals Amateur Radio Club (operators: VKs 4UW, 4ZBQ, 4ZCI)	282 pts.
VK5LZ, Elizabeth Amateur Radio Club (operators: VKs 5HB, 5BP, 5QX, 5NO, 5FY, 5TM, 5NQ, 5ZCH, assisted by T. Strong, L. Catford, P. Field)	1550 pts.
VK6VF, V.h.f. Group of W.A. (operators: VKs 6ZCP, 6ZDS, 6RU, 6BU, 6HK)	878 pts.
VK7JB, VK7EJ, VK7CT	763 pts.

Section D

VK2YN	475 pts.	VK3XK	150 pts.
2GJ	65 "	3XQ	105 "
3AKN	690 "	3OH	70 "
3AUL	400 "	3ALD	30 "
3GE	360 "	5JT	150 "
3KC	355 "	5ZBL	60 "
3AUC	350 "	5DF	55 "
3LW	340 "	7KS	435 "
3QV	250 "	7WI	45 "
3PP	175 "		

Section E

L2022—D. M. Grantley	560 pts.
L2033—D. W. Shephard	345 "
L3074—J. M. Hilliard	305 "
L3099—J. Jobson	200 "
L3042—E. W. Trebilcock	145 "
VK4-SWL—C. H. Thorpe	300 "
VK5-SWL—Miss O. J. Martin	360 "
L5031—C. M. Hutchesson	220 "
L7007—M. L. Jenner	300 "

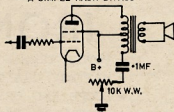


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—L. W. P. Smith, VK2AWS.

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PREDICTION CHART, JUNE '61

Mc.	E. AUSTRALIA — W. EUROPE S.R.																Mc.
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ROSS HULL MEMORIAL V.H.F. CONTEST 1960-61 RESULTS

THE Federal Contest Committee has much pleasure in announcing the results of the last Ross Hull Memorial V.h.f. Contest which was held in December 1960 and January 1961. Although conditions on the lower frequencies were disappointing and there were fewer overseas contacts, there was increased support from VK Amateurs. No logs were received from New Zealand and the only overseas log came from JA1FAF for one contact only. As in other contests, it was noticed that many who took part in the contest failed to submit logs.

The poor support for Section A suggests that this section could possibly be combined with Section B and made an open section in which both phone and c.w. contacts with a given station on the band could be counted. VK4 stations favoured Section B, while strong support for Section C came from VK3. Congratulations go to the Trophy Winner VK5GG who gained a total of 969 points, of which 905 were gained in Section B. This was the highest score in any one section of the contest. He was followed by VK3ARZ with 840 points, all gained in Section C. This was a particularly fine effort when it is remembered that most of his contacts were worth one point only. Two stations only entered for all three transmitting sections, and of these, VK3CS easily won the award from VK7LZ. Although the receiving section was relatively poorly supported, the logs submitted were of a high standard.

Special commendation also goes to VK3ARZ and VK5GG whose large logs were particularly well set out and very neatly compiled. These were in contrast to a few logs which were made difficult to check by the jumbling up of the sections and sequence numbers. One log, either by accident or misreading the rules, included many contacts twice. In regard to the scoring, the bonus of 20 points per new call area were not intended to be applied to Section C although the printing of the scoring table for Section C above that for Section B in "Amateur Radio" made it appear differently.

Highlights in the contest were the 576 Mc. contacts between VK2ZAH and VK2ZCF and between VK6ZAA and VK6ZDS. VK5GG made 32 contacts on 288 Mc. VK3ZER claimed a record for working VK5AW on 288 Mc. He also heard VK7LZ on the same band. Some contestants suggested a distance basis for scoring contacts on 144 Mc. and higher frequencies. While this might be a good way to score these contacts, it would be most difficult for the Committee to check. However, the Committee keenly appreciates the very helpful suggestions made by competitors and regrets its inability to reply to them individually.

Federal Contest Committee, W.I.A.

TROPHY WINNER

VK5GG—G. A. Gormly 969 pts.

AWARD WINNERS

Section A (C.w. Transmitting, 50-54 and 56-60 Mc. Bands)

VK3CS—I. MacMillan 53 pts.
VK4PU—J. Purdon 25
VK5ZDI—B. J. Burns 122
VK7LZ—C. P. Wright 27

Section B (Phone Transmitting, 50-54 and 56-60 Mc. Bands)

VK2ZLP—D. L. Price 423 pts.
VK3ZEA—G. W. Small 518
VK4ZBG—R. M. Feenaghty 678
VK5GG—G. A. Gormly 905
VK6ZCB/6—K. C. Bicknell 447
VK7LZ—C. P. Wright 199
VK3ZFQ/8—K. M. Cocking 135
VK9XK—S. R. Coleston 234
JA1FAF—Seija Pueta 30

Section C (Phone Transmitting, 144 Mc. and Higher Bands)

VK2ZCF—R. C. Norman 89 pts.
VK3ARZ—W. Roper 840
VK5AW—D. A. Carthew 334
VK6ZDS—R. G. Graham 19
VK7ZAS—G. C. D'Emden 60

Section D (Receiving, Open, all Bands from 50 Mc. and Higher)

L2211—R. C. Abernethy 343 pts.
L3055—M. R. Cox 259
VK4-SWL—C. H. Thorpe 355

Highest Aggregate Score in Section A, B and C

VK3CS—I. MacMillan 525 pts.

INDIVIDUAL SCORES

Section A

VK3CS 53 pts. VK5ZDI 122 pts.
4PU 25 " 7LZ 27 "

Section B

VK2ZLP 423 pts. VK4ZFA 138 pts.
2ABR 335 " 4ZEA 119
2ZGM 304 " 4ZDG 116
2ZCF 286 " 4ZRV 95
2ZDA 238 " 5GG 905
2ZFS 187 " 5ZFM 495
2ZDP 154 " 5ZBL 300
2ZDM 103 " 5ZCJ 173
3ZEA 518 " 5ZCQ 161
3ZKJ 310 " 5ZBI 101
3ZFM 277 " 7ZAQ/5 76
3CS 239 " 6ZCB/6 447
3ZCG 171 " 6ZAA 355
3ZCC 149 " 6ZCD 205
3NN 147 " 7LZ 199
3ZBL 145 " 7ZAC 177
3QV 129 " 7ZAQ 152
3OF 93 " 7ZAO 120
4ZBZ 678 " 7ZAX 111
4ZAZ 562 " 7ZAJ 104
4NG 419 " 3ZFQ/8 135
4ER 215 " 9XK 234
4PU 213 " JA1FAF 30
4RW 146 "

Section C

VK2ZCF 89 pts. 3CS 233
2ZGM 28 " 3ZCC 215
2ZDA 24 " 3ZEA 143
2ZDP 13 " 3ZBL 130
3ARZ 840 " 3QV 126
3ZER 294 " 3ABP 103
3ZCG 263 " 3ABK 84

Section C (Continued)

3AFW 80 " 5ZBL 21
3NN 75 " 5ZDI 18
3NB 53 " 5ZCJ 14
3ZGL 50 " 6ZDS 19
3ZDA 48 " 6ZAA 13
VK3ZFM 44 " 7ZAS 60
3AIJ 38 " 7ZAU 58
3ZFC 34 " 7LZ 51
3ZFM 33 " 7FF 47
5ZB 324 " 7ZAO 10
5GG 64 " 7ZAQ 10
5ZGB 30 "

Section D

L2211—R. C. Abernethy 343 pts.
L3074/2—J. M. Hilliard 50
L3055—M. R. Cox 259
L3074—J. M. Hilliard 247
L3065—I. D. Thomas 148
VK4-SWL—C. H. Thorpe 355

FSK TRIAL PERIOD ON ALL AMATEUR BANDS

Permission has been granted by the Postmaster-General's Department for the Amateur Service in Australia to use Class F1 emission (Frequency Shift Keying) with a maximum frequency shift of 850 c.p.s. on all licensed Amateur bands for a trial period up to March 31, 1963, when the position will be reviewed in the light of conditions then obtaining.

The Department does not propose to notify individual Amateurs, so all readers are asked to pass this information on to those who may be interested in Class F1 transmission. This information will also be transmitted from W.I.A. stations for the information of all Australian Amateurs.

In connection with the use of Class F1 emission, Amateurs are reminded that they must abide by Paragraphs 135 and 136 of the Handbook for Operators of Amateur Wireless Stations relating to transmitting call signs of the calling and called stations which must be transmitted at least once in every five minutes and clearly indicate the nationality prefix letters—in the case of Australia, "VK".

When Regulations 135 and 136 are applied in the case of Class F1 emission it will be necessary that the call sign be transmitted by either hand speed Morse code (Class A1 emission) or radiotelephony signals.

It is not anticipated at this stage that many will have the necessary equipment for FSK transmissions although it is known that some Amateurs will be participating in FSK experimentation. Reports will be welcomed by the Federal Council of the W.I.A. concerning this mode of transmission and its effect (if any) on the normal use of the Amateur Service bands.

VK-ZL CONTEST

PHONE: 30th SEPT. and 1st OCT.

C.W.: 7th OCT. and 8th OCT.

1000 hrs. GMT to 1000 hrs. GMT

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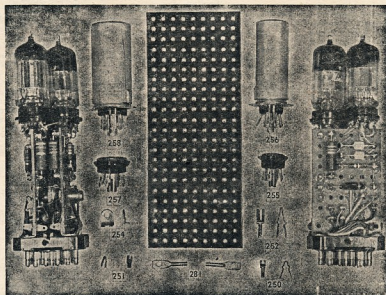


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S.W.I.

Maurice Cox. W1A-13055
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Olympic Village, Heidelberg,
N.33, Victoria.

A HAM'S POINT OF VIEW ON S.W.I'ING

"Dear s.w.i., your reports are valued and appreciated by most Hams who turn their beams DX-wise. Having been an s.w.i. myself, I appreciate your pleasure in receiving a QSL card and I will confirm every worthwhile report of my transmissions.

"Amateurs really like to know that they have been heard, but when a s.w.i. report is received, sadly lacking in detail, and only containing particulars that could easily have been taken from the station he was working—the wonder! So I do put him out of his misery, give as much detail as possible in particular, topics of conversation that are not likely to be repeated by the station he was working.

"Wherever possible, address him with his name, "VK3WC, Dear Ewan," seems much more personal than the blunt call sign alone. Give thought to the presentation of your report. A view-type card or character-type particularly depicting your country or area is sure to find favor, but is more likely to receive its way to the Ham shack wall, reserved for the Amateur's most prized QSLs. This, of course, is not absolutely essential as several of my most prized reports are well-written, interesting and informative letters. Unlike shortwave broadcast listening, the Amateur engages two-way communication, and the most interesting and informative you make your reports the better are your chances of getting a QSL in return. Comparisons with other stations, particularly those from the same or adjoining call areas, band conditions at the time of stationing are well worth hearing, the particular Amateur without making contact, are items of direct interest that give the details of your equipment are of natural interest.

"But don't forget yourself. Are you young? Middle-aged? Or elderly? Your hobbies, profession and interests—do you plan to become an Amateur or prefer to remain an s.w.i.? These and many other personal items are of great interest to me and I'm sure to many other Amateurs. I will follow the lead of an Amateur some compelling reason to confirm your report, this gives you great scope for your ingenuity, and the greatest of pleasure must come from receiving a QSL card from the hard-to-get Amateur. I know that after doing all things possible so many times you down, so be it. We will never get perfection, but never let that deter you from striving to better your averages. It is hoped that many more QSLs will be received in your effort, patience and courtesy. Yours fraternally, Ewan VK3WC."

I thought it a good idea to let all VK s.w.i. see the above letter that is enclosed with a card to the s.w.i. stationing in evening. It has shown me some very bad QSL cards, that he has received from s.w.i.s. Mind you, the card was fine, but it was the way it was written that prompted him to write the above letter. In my book of rules they were absolutely worthless, so the good bloke that Ewan is, he wrote the letter and I'm sure he will never get it. I only hope that none of the VK s.w.i.s. get one. Thank you, Ewan, for writing me this letter available to my fellow s.w.i.s.

VICTORIA

On Friday, 28th April, 33 members of the Crook Colliery s.w.i. club met in evening. It was quite a surprise and pleasing to see so many in attendance. We had quite a long meeting, everything was discussed to keep the members interested and it was decided that we all agree, that the W.I.A. should be omitted from the VK listeners number and retained in the W.I.A. (that's my view). I require all Divisional Secretaries to put this to the vote at their monthly meeting and advise me of their decision.

At the Crook Colliery listeners contest will be run from this Division and it will interest all s.w.i. whether you listen to the Amateur bands or the s.w. b.c. bands. To please all VK s.w.i. enter this contest next month. VK s.w.i.

I wonder if any Amateur would like to donate to the VK3 Group a receiver for use at the rooms, in 478 Victoria Parade? It will be used to show the up-and-coming Amateurs of tomorrow how to operate a receiver and also to give them some working when at the meetings. Are there any others?

SOUTH AUSTRALIA

Since Al Rechner, VK3ZCR, went to Mt. Gambier, he has gradually converted the local group to the v.h.f. bands. Colin is going to conduct a 20 mhz stationing out of the Feb. 1959 R.T.H. and use it ahead of the tube receiver. Gary has at last got his receiver going on 20 mhz and by his log book of DX stations, he has a very large list. Colin cannot listen to the good bands, 10 and 15 mhz until he builds the four-tube converter from R.T.H. It is hoped to start A.O.C.P. classes soon and their tutor will be SZCR. SWI has asked them for news to be used on the broadcast of a Sunday morning, so that the Adelaide lads can keep in touch with the Blue Lakes boys.

TASMANIA

At long last some news from the Apple Isle. I think you lads must elaborate for a while; no wonder my XYL is always asleep, hi. Mike apologises for not writing. They are accepted, Mike, you haven't any news it's no use writing is it?

Quite a lot has happened since he last wrote. Mike is now on the air as VK7ZAV (another s.w.i. report). He has had good results on 6 mhz from his location of New Norfolk and longest distance so far is 27 miles. Over very rough terrain for most of the way. He is running on 10 mhz (borrowed tx) and a 4 element beam to a three-tube tunable converter. On 2 mhz all signs of receiving. OK, but no one very happy, perhaps they're not listening Mike. His power on 2 mhz is 2w. to a 10 element Yagi.

"At their March meeting there was a special 'do' to gain new members. They wrote to several of the show-ups, they arranged a display of receivers, converters, crows, plus Mike's 6 mhz gear. They worked TMY, 10 mhz, and 20 mhz. They had a very good dipole. The result of all that was that 12 became new members.

By now the senior members of the VK7 Group will be at the meeting to discuss and decide on a programme for the next few months. Hope you can come up with something good, especially a Beard, if he's capable—what with his sprained arm and tired wrist, hi! I hope it's better by this Ted. All the very best to the Apple Isle boys and don't be so long in writing next time.

CORRESPONDENCE

Thank you to the boys who have written to me to pay homage to the meeting from Eric Trebilcock, Don Granley, David Jenkins, Peter Drew, Harry Major, Dick McKell, John Walker, Howard Harvey, Fred Mackiewicz and Sven SM2-3104, of Sweden. Peter Drew is now W1A-16021. He writes that he has just received his listener's No. and since he has had his several new countries, plus one more confirmed, the moment his listening is limited because of school exams. But in the May holidays he's going to listen all day and every day.

Richard McKell, of VK2 land, is a mate of John Walker's and at the moment is in hospital—hope you'll soon be out Dick. He wants to know what would be the best antenna that he could use and how we would set it. I answered Dick, a whip is the best that I know of. Anyhow let me know what you eventually do.

John Walker wrote to Gerry Albeck for a s.w.i. number, but as yet no number. Come now, Gerry, if a member wants a number, let him have it as soon as you can.

Howard Harvey, on your passing your A.O.C.P. (another s.w.i. gone west). He's just completed re-building his shack; due to this, s.w.i'ing is lacking. Yes Howard, you can miss a lot in life. Even if Howard is a Z call now, he's not going to give up listening.

Fred Mackiewicz is a new member of the VK3 Group and tells me he had a go at QSLing a DX station a couple of months ago and received a card from 11ANZ. Fred uses an Edisun 1000, a Skyraider and a Philbrick. His antennae are a long wire and a Windom. Later he intends to put up a fixed ZL beam.

Harry Major—at last I've met the honourable gentleman. He is now of the VK3 Group, L3102 and Harry told me the last meeting of the Group. Harry was the head of the group, a lot of fun since I wrote about him a couple of months ago. Don Granley

was one, thanks Don. Harry is doing an f.b. job of being young lads at the Colliery Technical School. Harry built a s.w. tuner circuit up that Don sent him. He built it onto the front of his little "biteset" set. It is a regenerative detector with plug-in coils. He has modified the set slightly and with two audio stages it is super.

Don Granley, he's doing well on the hearing aid I heard that last night a W said that his hearing aid was a so and so with 220 hrd., 72 con. and 54 hrd. on s.b.s. this year he's hrd. 111 countries in 34 zones and 30 on s.b.s.

Milton Richardson, ex Albany s.w.i. and place-getter in the last R.D., is now in Melbourne working with the P.M.G. and you can go along and see us Milton at the meetings.

At Don's QTH his antenna is now up to 40 ft. but is still using the long wire, pending completion of his feeders for the end-fed Zepp. The tube line-up in his AR7 and AR9 (type unknown) is again altered with good results. He uses the Marconi to search for them and then to the AR7 for selected listening.

Eric Trebilcock, I always like reading his letters, there is so much in them. He writes not only on DXing QSL, but where and what he does. Eric is a great sportsman, especially football, but he is one-eyed too. I am glad we barrack for the same team. Eric is now doing a grand job as inwards QSL manager for VK3.

He's had cards this year from 75 countries, 30 zones. That indicates that he's more than up to his normal received QSLs for this time of the year. It is a better quality rather than the quantity of the QSLs is reflected in those figures. He always thinks that the number of cards does not really matter at all. It is the countries and DX zones of origin that count most. So in his old age, he seems to be judging things a bit better and so he's a better quality usually results. This year to mid April, Eric has forwarded 348 reports and cards, a little less than average, but still a pretty high figure. Eric's DXing is reported on page 12.

I am sorry I can't report on anybody else as space is running out. Please bear with me, I'll fit all your interesting news in somehow soon.

Now to the ladder, and I believe this is becoming very popular. I've moved down once again, but just wait—I've sent out 35 reports so far this year.

DX LADDER

Con.-	Con.-	Zo. No. of
Card	Card	Con. Card
L3042	Eric Trebilcock	268 277 40 5853
VK4	C. Thorpe	— 85 137 34 —
L4022	D. Granley	— 74 221 35 425
L3074	M. Hilliard	— 57 185 24 150
VK4	A. Westcott	— 33 152 —
L3055	M. Cox	— 30 198 19 86
L3063	I. Thomas	— 16 130 13 32
L3066	P. Heywood	— 16 130 13 32
L3211	C. Abernathy	— 16 51 15 55
L5031	C. Hutchesson	— 7 96 6 18
L3068	D. Granley	— 11 153 10 —
L3068	D. Granley	— 11 153 9 —

That's it lads till next month. 73, best DX, Maurice, L3055.



T.V. OPERATOR'S CERTIFICATE OF PROFICIENCY

Alteration of Date of Examination

The Australian Broadcasting Control Board have announced that commencing in June, 1961, the examination for the Television Operator's Certificate of Proficiency will be conducted on the first Tuesday in June and December each year instead of the second Tuesday, as formerly.

The closing date for applications will be the eighth day of the month preceding that in which the examination is to be held.

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A4, 80 watts	—	—	42/-

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1 lb. Reels 60/40 — 14/8 each Post 1/3.

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0-1 mA. Multimeter Scale	—	—	25/-	each
0-500 μ A. Plain Scale	—	—	79/-	Post
0-50 μ A. Plain Scale	—	—	87/6	each

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Correspondence

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PAYMENT OF LICENCE

Editor "A.R." Dear Sir,

Permit me space to reply briefly to Max VK2ARZ with respect to the second statement in his recent letter to the Editor in the May issue of "A.R."

Assuming the VK5 Divisional membership to be, shall we say \$30, I can assure Max that 249 of those members wait each first of the month in eager anticipation of my making even a penny-weeny slip of the pen which would permit them to get a little of their own back.

Bearing this in mind, is it logical that I would be foolish enough to put pen to paper without being doubly sure of my facts as they apply to VK5.

The fact that Max claims to having paid his licence renewal fee several times locally means nothing outside of VK5, as I can assure him that in Adelaide he can only pay the fee to the Receiver of Public Money in the Adelaide G.P.O.

—Warwick Parsons, VK5PS.

ROSS HULL CONTEST

Editor "A.R." Dear Sir,

I found it encouraging to read the replies of VK3AW, VK3CZRT and VK3ABK in the May issue, and of a letter from VK4ZAA, but are these the only people sufficiently interested in the Ross Hull Contest to put pen to paper. What about VK3, VK5 and VK7? Don't the v.h.f. people there care? Other VK3 operators have spoken to me on the air, but in general they agreed with my proposals. In fact, very similar to the one in the May issue in April "A.R." (p.16) was recommended to the Federal Contest Committee by the VK3 Division. However, insufficient time was allowed for anything to be done for the contest last season.

The scoring table I put forward was to illustrate the points I was trying to make. However, with slight modification, I think it would become a practical proposition. I put considerable thought into the values in the table and am confident that the changes suggested by David VK3AW and Al VK3CZRT. Two points that I neglected to state in my first letter are my reasons.

1. Local cross-town contacts serve no real positive purpose on 50 and 144 Mc. New stations, with the simpler type of gear, always find themselves popular for the first month or so of operation and don't go short of contacts, contest or no contest. However, such contacts do, undoubtedly give the large-city operator a definite advantage and without doubt the most favoured city in this respect is Melbourne. Look in your Call Book at the number of VK32 calls listed, then compare Melbourne stations favoured so much that in the contests of 1958/59 and 1959/60 when the rules were such that local contacts were permitted, VK3 entries were the most successful. In the contests of 55/56 and 11 out of 14 in 55/57. Entries were at an all-time low and some States were not represented at all. During the latter part of 1958 and early 1959 I had the chance of meeting v.h.f. operators in VK2, 4 and 5, and I asked why the lack of enthusiasm for the Ross Hull. The reply invariably was "the rules favour Melbourne operators because of their relatively great activity there." These were such v.h.f. men talking. They had activity all right, but not on the level of activity in Melbourne. In my view, this state of affairs still exists and the best way of nullifying this advantage is to bar local contacts. This would mean that the v.h.f. station just outside the main centres of activity does gain some advantage but not such a great one as some may think. The country operator cannot always get to every city station and surely the people to encourage are those in the mulla. If, however, general opinion throughout Australia shows that local contacts would have some value, then to offset the advantage of numbers, perhaps a limitation could be placed on the number of long range contacts with a particular station within the shorter ranges.

2. In the table submitted by VK3AW and VK3CZRT, they have doubled the values in my tabulation in most cases. This, I feel, leads to unfair situations in causing too big a difference in the value of QSO in adjoining distance areas where such a difference is not

warranted. I think this apparent random doubling of the points serves no purpose other than to make for large scores.

My suggestion about operating for one week within the Dec-Jan or Jan-Feb period at the operator's discretion, may answer VK4ZAA's request.

VK3ABK caused me to have further thoughts on the value of contacts for the higher bands over the shorter distances, and because of the very limited activity on these bands at the present time, I feel it would not be inconsistent with my foregoing statements to modify my original table as follows:—

	28c	57c
Over 1 mile and up to 10 miles	Mc. Higher	1 2
" 10 " " 25 "	" 1 2 4	" 2 4 8
" 50 " " 100 "	" 4 10 15	" 8 15 25
" 100 " " 200 "	6 as as	" 15 25 40
" 200 " " 300 "	as before before	" 25 40 60

The remainder of the table to be as before. Remember, it is up to the v.h.f. men in each State to agree amongst themselves, and then, through their Divisional Councils, to inform F.C.C. of their wishes. Remember, too, to keep things simple and if any radically new ideas come up, let them die. I know by putting the idea in the mag. in this way, the views submitted to F.C.C. shouldn't be too divergent and that body should be able to come up with changed rules acceptable to everybody with a minimum of effort.

Now is the time to act if you want new rules for the 1961/62 contest. Get cracking—see you in the Ross Hull.

—David Rankin, VK3QV.

EUROPEAN OSCILLATOR CIRCUITS

Editor "A.R." Dear Sir,

Referring to the article on European oscillator circuits recently reprinted from "CQ" magazine. In particular the Clapp Franklin circuit of Telefunken Laboratories.

This circuit seems to have undergone some major changes during reprinting.

(a) The anode circuit of the second triode is taken to B neg. instead of B plus.

(b) Some rather amazing values are quoted for the feedback network. I.e. 0.015 μ f. and 0.01 μ f.

To maintain oscillation, a circuit must satisfy the equation $A \times B$ equals 1, where A equals valve gain, B equals feedback.

With the values of capacity quoted it would be necessary for the two triodes to have an overall gain of approximately 150.

Triodes in circuit, a circuit of 150 is more likely to have a gain in the vicinity of 2, i.e. 2×2 equals 4.

I feel that the values of 0.015 and 0.01 quoted were probably, in the original, 0.0015 and 0.001, under which condition the formula $A \times B$ equals 1 can be satisfied by an overall gain of approximately unity.

The above theoretical considerations are borne out by my experience when I built this circuit which, after the above mentioned modifications, proved to be very satisfactory and all that was originally claimed.

—Cyril B. Edmonds, VK3AEZ.

THE BOTTOM "40" OF 20 METRE PHONE

In the "good old days" before the fateful 10th March, 1960, DX operators made use of working 20 metre s.s.b. DX by tuning the frequency range 14300 to 14350 kc. This segment of the 20 metre band was affectionately dubbed "the top 50".

A careful scrutiny of this "top 50" today would reveal a totally different situation. A solid mass of C9 plus signals from North American stations would be the only thing heard, with scarcely a space in the 50 kc. segment. Any DX station brave enough to operate here with a signal less than S9 would be unreadable for much of the time.

The stronger ones who do manage to make themselves heard above the cacophony are faced with a constant stream of W calls or the familiar "break, break". Usually the intrepid DX station has to give up eventually even if he tries to cope with the Herculean task of handing out reports. Under these circumstances, a solid QSO is not only rare but also well high impossible.

The net result is that nobody is happy with the situation as it is at present. Here in Canada, the DX-minded s.s.b. operators have been trying their hardest to convince DX operators throughout the world that for the VE's and the DX is below 14.3 Mc.—that is, the "lower or bottom 40", the band of frequencies between 14100 and 14300 kc.

Until recently, we have been "wee voices crying out in the wilderness", but during the

past week, several DX stations have favoured the "Bottom 40" with their presence: VR6AC, ZD1ES, LZ1WD, VP2AB, VK3AHO, ZL3IA, G1KVVQ, ZL1ATQ. These are just a few DXers flouting the "Bottom 40" comfortably.

Now, it only needs a final push-pull effort by all of us to make the "Bottom 40" a permanent home for DX s.s.b. operation on 20 m.

May we count upon your support in this programme? With your support, we would soon see the return of many well known s.s.b. operators who have become discouraged and have faded away, no doubt due to the chaotic conditions existing on the h.f. end of the 20 metre band.

Not only would these old-timers return, but also new stations would appear on the band as soon as they realised that this has become by custom "sideband DX territory".

Only in this way can international sideband operation make progress. Only in this manner can it assume the stature within our great hobby, that it so rightly deserves.

See you on the "LOWER 40"—Soon!

—"Bob" VE3AYE (Sec. op. of VE3BWY).
Public Relations Officer, Ontario DX Association.

LOW DRIFT CRYSTALS FOR AMATEUR BANDS

ACCURACY 0.02% OF
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NOTES

FEDERAL

NON ISSUANCE OF R.D. AND N.F.D. CERTIFICATES

Place getters in the 1961 Remembrance Day and National Field Day Contests will be wondering why they have not received their certificates. The truth of the matter is that all the Federal Certificates were damaged by fire and water last year, and so, pending insurance settlements and what-have-you, nothing much could be done about it.

Work is progressing on new designs for most of the W.I.A. Certificates but it will be a few months yet before designs, art work and printing has been decided and completed. In the meantime a few of the old certificates have been salvaged—with the exception of the R.D., of which the remaining very few were damaged beyond salvage, and these have been gullitoned around the edges, resulting in a reasonably respectable certificate which will have to suffice for the time being.

EX FEDERAL OFFICER ORDAINED AS MINISTER

Mr. John Rice-Oxley, VK3AKO, former officer of the Federal Executive, has recently been ordained a Minister of the Church of England and has been located as Curate to St. Marks, Spotswood, and St. Paul's, Kingsville, Edgemoor, in more than forty countries, leaving standard in 1949. John joined the Postmaster-General's Department and became a cadet draftsman. He nearly completed the Diploma of Electrical Engineering at the Royal Melbourne Technical College during this time and in 1954 commenced as a draftsman with the P.M.G. Research Laboratories, completing the next two years with Research, he completed his Diploma.

In 1958 John left the P.M.G.'s Department to commence a Licentiate in Theology at Ridley College, Melbourne, a course which he has now successfully completed. Although his post in the department was a full time, John hopes to soon get back on the air again.

G.E. HAM NEWS

Many will remember "Lighthouse Larry" of General Electric Company, USA, and that excellent publication G.E. Ham News.

A recent letter from Lighthouse Larry advised that distribution of G.E. Ham News outside the United States is handled through the International General Electric Company. They ship quantities of each issue to their representatives in more than forty countries.

If you are interested in receiving copies of future issues you should write to:

W. Campbell, Director, Australian General Electric Ltd., 167 Kent Street, Sydney.

Also G.E. Ham News' third bound volume and G.E. Ham News S.A. Package, second edition, are ready for distribution. These can be obtained by sending a money order to the value of four dollars to:

"Lighthouse Larry," General Electric Company, 318 East Ninth Street, Owensboro, Kentucky, U.S.A.

Dollar money orders for technical publications are available from all Post Offices.

I.A.R.U. YEAR IN REVIEW

As has been the custom, the December Calendar of the Union contains a brief report for the Hqrs. on the affairs of the Union for the past year.

Membership in the Union increased from 54 to 86, the Liga dos Amadores Radio de Angola and the Club Radio Africano de Luanda, Salvador being welcomed into membership during 1960. Although in the course of the year the Hqrs. engaged in correspondence with several potential new members, none have so far resulted in a formal application.

Member Societies indicate a continuing growth in their membership, paralleling the increase in number of Amateurs throughout the world. The Radio Amateur Call Book Magazine currently lists more than 100,000 Amateurs outside the U.S. and possessions; the comparable figure

ten years ago was only 43,000. Neither figure includes Amateurs in countries from which statistical information is not received, notably the U.S.S.R. In the U.S., the number of Amateurs increased from 90,000 to more than 300,000 during the past ten years.

The fourth meeting of the Region I. Division was held at Folkestone, U.K., June 13-17, attended by 40 delegates from 15 countries, plus six observers. The gathering discussed European Amateur allocations, governmental liaison, I.T.U.'s Panel of Experts, and a general review of the 1959 Geneva Radio Conference. The next meeting is contemplated for the Region I. Division.

The I.T.U. gave notice, at mid-year, that Iran had withdrawn its objection, filed ten years ago, to communication between Amateurs and those of other countries. The United States signed third-party message traffic agreements with Haiti, Honduras and Paraguay.

There was no international conference affecting Amateurs held during 1960, although in May, 1961, the new regulations of the Geneva Radio Conference came into effect. An extraordinary conference on frequency allocations for space communications is contemplated for 1963; preparatory work commenced in some countries in the latter part of 1960.

To study the problem of congestion in 4 to 27.5 Mc. is scheduled to meet in Geneva during 1961, and here again preparatory work in several countries commenced in 1960.

The Union Belge des Amateurs-Emetteurs reported extensive operation by its Amateurs when normal communications were disrupted in the Congo. A communication emergency net, headed by the official station of the Radio Club de Chille (CE3AA) in Santiago handled much traffic during the earth quake and sea quakes.

WIBUD Retires
Arthur L. Budions, WIBUD, I.A.R.U. Secretary and A.R.R.L. Secretary and General Manager, retired on Dec. 31, 1960. He had been with the League more than 37 years, having been Secretary of the Union since 1948. We know all member societies will join the Hqrs. in an expression of deep appreciation for his many services to Amateur Radio over the years, particularly in the field of international conference participation, and in wishing him many happy years of retirement.

The A.R.R.L. Board of Directors elected John Hinton as Secretary of the League effective Jan. 1, 1961, at which time he also became Secretary of the I.A.R.U., as provided in Article III, Para. 4 of the Union constitution.

International Regulatory Matters

The next international regulatory event with potential effects on the Amateur Radio Service is a meeting of the Panel of Experts in Geneva, probably in April 1961. The Panel has been assigned the task of studying the problem of congestion in the bands between 4 and 27.5 Mc., and of making recommendations as to the steps that should be taken for the purpose of relieving the pressure on those bands. The Panel's membership will consist of the four heads of the permanent organs of I.T.U. (Secretary-General and chairmen of I.F.R.B., C.C.I.R., C.C.I.T.T.), plus up to seven additional persons chosen by the Administrative Council of the Union, and submitted to the Administrative Council. The Council will then consider the report and recommendations and, after consulting administrations, decide whether any further action should be taken, such as calling another international radio conference.

It is expected that the June Calendar will be the last list of panel members as chosen by the Administrative Council. Member Societies are urged to maintain liaison with their governments in connection with any activity involving participation in the work of the Panel of Experts, so that the interests of the Amateur Radio Service may be properly safeguarded.

Silent Key—GSDQ

We regret to record the passing of Mr. Wm. Radcliff Metcalfe, GSDQ, who was President

SILENT KEY

It is with deep regret that we record the passing of:

VK3AGB—Pete Gibbons.

VK5LT—Pat Leonard.

of the R.S.G.B. during 1960. He succumbed on Christmas Day, 1960, after a long illness. "Clu" Metcalfe's progression to the R.S.G.B. Presidential Chair was remarkable. He became a member of the Council in Jan. 1955, upon his election to the office of Zonal Representative for Southern England. Two years later, he was elected Hon. Treasurer, an office he held while still acting as a Zonal Representative. In Jan. 1958, he became Executive Vice-President, and on Jan. 1, 1960, he succeeded Dr. Smith-Rose as R.S.G.B. President.

GSDQ was a most enthusiastic Radio Amateur. Licensed before the last war, he was a first class telegraphist, but during more recent years he used telephony a good deal on 3.5 Mc. For some time he was a member of the team of R.S.G.B. News Bulletin readers, helping to provide a service for listeners in the north-east of England.

SUMMARY OF I.T.U. MONITORING REPORTS

Here is a summary of unauthorised stations heard in the Amateur bands during the period May through August, 1960, as reported by the International Frequency Registration Board. Stations operating in accordance with the Atlantic City Convention (1947) are not reported. Stations heard in the Amateur bands only once during the four-month period are not reported, either.

Freq. Call/QRA	Type of Signal
7.008 APK	Broadcast
7.050 Cairo	"
7.050 Paris	"
7.060 Peking	"
7.070 Ioannina	"
7.070 Moscow	"
7.080 Peking	"
7.081 Peking	"
7.100 U.S.S.R.	"
14.287 NN33	Automatic A1
14.363 IRL3	"
21.000 OLV	Radio Teletype F1
21.001 OLV	Automatic A1
21.002 OLV	"
21.003 OLV	Broadcast
21.018 HLG39	Radio Teletype F1
21.300 ULV	Automatic A1

FEDERAL QSL BUREAU

Considerable difficulty is being experienced with the disposal of incoming cards for VKO stations. This year's list of Antarctic Hams is the cause of much of the trouble. Anyone having information which will help to place cards in the correct hands is requested to supply the information to this Bureau. Later in 1961 a hoped to publish a list showing full details of the 1961 team. Cards for some stations of the 1960 team are still on hand and the current mainland address of VK0KD, I. Douglas, ex Davis Base is required.

The Taiwan American Radio Club has opened a QSL Bureau. Cards should be sent either to: T.A.R.C., Box 24, U.S.T.D.C., A.P.O. 63, San Francisco, California, or to T.A.R.C., United States Taiwan, Defence Command, Taipei, Taiwan, Republic of China. The Club Secretary is John Graham, W2WQ.

Hereunder is full list of the licences issued to members of the 1961 Antarctic team, together with location and home State and other details:

Dave: VK0AW—A. Warriner (Tony), Vic. (QSL via VK2).

ODA—A. Brown (Alex), Vic.

OTF—F. Taggart, Vic.

OMH—M. Hay, W.A.

ONL—N. Lidel (Nils), Vic.

VJW—B. Jabs, Vic.

Max: VK0CH—C. Harris, Qld.

ODW—W. Denham, N.S.W.

OWY—W. Young, Vic.

Wikes:

VK0RE—E. Harrigan, N.Y. (U.S.A.).

GLB—J. Breckinridge (John), N.Y. (U.S.A.).

OLC—G. Hemphill, N.Y. (U.S.A.).

OTF—F. Taggart, Vic. or to T.A.R.C.

ONR—N. Smethurst, W.A.

OPB—P. Stansfield, W.A.

ORT—R. Torckler (Ray), N.S.W.

OTC—T. Chubb, N.S.W.

OTC—T. Cordwell (Tom), W.A. (QSL via VK2EG).

OWS—S. Grimley (Steve), N.S.W. (VK2VK).

OWB—W. Birch, Vic.

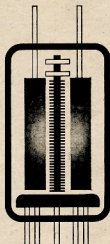
OWE—W. Hogan, W.A.

OWF—W. Budd, N.S.W.

OWV—W. Wilson, Virginia (U.S.A.).

OWW—W. Wilson, Virginia (U.S.A.).

PHILIPS



TRANSMITTING AND RECTIFYING TUBES FOR MOBILE EQUIPMENT

The necessity of telecommunication equipment for sea and air transport is obvious. In this field, telecommunication equipment is often obligatory. In many other fields, however, a need for communication is equally felt, but the bulk and cost of transceivers of usual design has long been prohibitive. Faced with this problem, equipment designers and tube and component manufacturers, working in close co-operation, have gradually developed mobile transmitting equipment that successfully combines small dimensions, low cost, ease of operation, high and dependable performance. As a result, mobile telecommunication equipment is being used on an ever-increasing scale in numerous fields, as, e.g.:

- coasters.
- motor launches of shipping agencies, ships' chandlers, contractors of harbour works.
- small fishing boats.
- tugs (e.g., for direct communication with their tow).
- seagoing yachts and other small maritime craft.
- fireguard for contact with central office.
- taxi cabs for contact with the central point.
- doctors' cars for contact with their base.
- building firms for contact between remote or not easily accessible spots.
- public utility firms for contact with their outside personnel.
- service firms for contact with their personnel on vehicles.
- lonely farms in sparsely populated areas.
- airport vehicles.

Transmitting tubes

PREFERRED TYPES

Further additions to the range of "quick-heating" tubes will be announced shortly.

TYPE OF TUBE	QOQ02/5 Double Triode (6939)	QOQ04/5 Double Triode	QOQ03/12 Double Triode (6360)	QOQ03/14† Double Triode (7883)	QOQ04/15 Double Triode (6935)	QOQ03/20 Double Triode (6232)	QOQ04/40 Double Triode (6146)	QOQ05/35‡ Double Triode (6042)	QOQ06/48 Double Triode (5894)	QEL/150 Triode (4 x 150A)	QOQ04/200 Triode	PEI/100 Pentode (6083)	TB2.5/300 Triode (5866)	QOQ03/300 Triode (6155)	TB2.5/400 Triode	TB2.7/300 Triode
(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)	(W)
2 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195	200	132	390	375	390	500
20 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195	200	132	390	375	390	500
30 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195	200	132	390	375	390	500
60 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	52 69*	52 69*	90	195		132	390	375	390	500
100 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	53*	53*	90	195			390	375	390	480
120 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	47*	47*	90	195			390	375	390	475
150 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	26.6 35.0*	48	40*	40*	90	195			390	360	390	465
200 Mc/s	5.8 7.2*	7.0 8.0*	14.5 18.5*	14.5 18.5*	20.0 24.0*	48			90	185			197	225		445
300 Mc/s	5.8 7.2*	7.0 8.0*	7.0 8.0*	7.0 8.0*	6.5 8.0*	34.5			75	170						400
430 Mc/s	5.8 7.2*	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*	23			66	155						350
500 Mc/s	5.8 7.2*	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*	22			60	140						325
600 Mc/s	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*	20										290
890 Mc/s	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*											180
960 Mc/s	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*	7.0 8.0*											

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PH1649/61/E

rig should not be long now. More crystals have arrived from afar and we have been well covered—40 away. The osc. goes well but there is an absence of drive, but fear not all will come good in the end. The club is going well and some prayers are being offered for the institution of novice licences and 3 w.p.m. as some of the boys seem stuck on that magical figure.

Well chaps, don't forget the meeting. It will be at the usual place, Tighes Hill University on the second Friday and for those without a calendar, that's the 8th. See you there. —SAXX.

VK3ATQ—BOY'S CLUB

The club hasn't been as active as we would like, and band conditions always seem a bit off when we are on. However a few 2Ls and VK4s have exchanged reports on 20 m.

We were pleased to meet up with 2ADZ, 2ZL, 2AQR, 2IR, 2ACZ, 2PF and 2NA lately. George 2ADZ is living about half a mile away, but 2AMU and 2ALA are even closer.

Welcome back to Bob 2IN, after his trip through the Never Never. Bob supplied endless quantities of spare parts for our projects last year, but due to lack of time, construction work right now is nil.

Reg 2AI has promised to pay a visit after the holidays and demonstrate his KWM. We are borrowing a s.b.s. tx for a week or two at the end of the month, so if that doesn't raise a burst of activity nothing will.—SAXX.

VICTORIA

At the May monthly meeting we had an "Auction Night". Len Moncur was the very able auctioneer and quite a few items were exchanged. For one item someone started the bidding at "a dollar." SAKJ thought he'd be a smart alec and raised it to "1 dollar 20." He laughed on the other side of his face when Len kicked down to him for 3/6! Lots of fun was had and lots of gear was disposed of. Prior to the auction, Sid Clarke showed us samples of coaxial cables and cables are being used between Sydney and Melbourne and also for high-power v.h.f. applications. This was extremely interesting and got the meeting off to a good start. Thanks, Sid. Thanks also to Len who did a fine job of extracting the "dollars," and dispensing the gear.

This month, on the 7th June, Wednesday night, the agenda item will be a lecture by

Lex 3AIL, on s.a.b., linear amplifiers, electronic 7/2, switched, and the like. The last lecture he gave on this subject was outstanding, so be in it this month; 8 p.m. at the Royal Melbourne Institute of Technology, Radio Theatre, Wednesday, 23 June.

With regard to the library, we are missing the following books: Admiralty Handbook 1938, Vol. 1; Frequency Modulation, by Tibbs. Please return them at once, and it might be a good idea if ALL books out were returned so that our new librarian can sort out what's missing.

Work has started on repairs to the building. This will cost money, so please if you have not paid your subscription yet, let's have it.

R.D. CONTEST

Yes, about 10 weeks to this annual event. Let's make the upsurge of activity in VK3 over the past year or so a very evident fact by all h.i. operators getting on the air. As you know the "big" States have little chance of winning unless MOST of us submit a log. Please keep this contest in mind—August is the month and crank up your gear on 30, 40, 20 mx. The v.h.f. boys are up to all sorts of capers, here is an opportunity for those of us on the "big" bands to do something—i.e. about 90 per cent. of VK3 stations submit logs for the R.D. Contest.

You think this is impossible? Well are YOU going to be one of them?

PERSONAL BITS

Keith 2YQ is back from Japan; glad to have you back Keith. David 3ADW on holidays in the Alps somewhere. Michael 3ZEO and 3CZC back from the S.W. Zone Convention, said they had a beaut time. 3AF, another television star, on the children's session on Channel 9 of a Wednesday night, giving Amateur Radio a bit more publicity; very good! Ken 3KR working some rare ones on 15 mx like F08, 9US, Z2S, etc. in the afternoons. He has a triband quad and home brew rig running 80w. to 813 final. He tells me that Keith 3DVB is busy in building a new one and a Gelofo v.f.o. and 813 final and hopes to be active on all bands before very long. Other Hams in Benalla are Bill 3JP, Jack 3PF, George 3ADZ, but not very active.

SOUTH WESTERN ZONE

The Zone Convention was held in Warrnambool on 29th and 30th April. It was a good tradition by the local group but the zone

annual meeting during the Saturday afternoon and thus allowed the members to devote the entire evening to entertaining the visitors. It was certainly a struggle to make the earlier meeting, but general opinion was that the effort was well worth while.

Our new President is Brian 3XN and he is supported by Jim 3ABT and Bob 3IC, the Vice-President. The secretary, who remains with Don 3AKN, but some of the burden now rests on the capable shoulders of Eric 3ANQ who fills the long vacant post of Publicity Officer. Eric will be the chiding of those coming from now and may be found on 144 Mc, almost any night. If you do have anything for the notes and can't find the elusive desk, haven't a chance to write, try the old firm on 80 mx and we should get it through for you.

The field events were based at Jubilee Park outside the city and the day was a definite and a wonderful time was had by all, especially the harmonics. The 80 mx tx was hidden cunningly in an old tank in the abandoned school ground by Brian 3XN. The first two to arrive dead-headed. The organising committee had the forethought to read the speedometers of the participants. The winner was Michael 3ZEO the winner by one mile. The Geelong Club Perpetual Trophy, however, consoled the runner-up, John 3AGD. Michael also found the 2 mx rig hidden by Bill 3CZF. There were no starters for the 6 mx hidden tx. The 80 mx fox hunt was the last event and again the fox, SAKJ, nobly assisted by 2ARJ, fell to Michael 3ZEO. The all-band scramble went to 3AKN on a count back from Bill 3XE and John 3AGD. Bill, however, took the DX prize for the contact. 3IRK, 3KX and 3KX were 80 mx during the scramble. The best mobile went to John 3AGD.

There were many other minor events and prizes. Tat stalwart of the nit wit network, Luke 5LL, drew the lucky programme and a special for the long distance he travelled. The 1000 mile prize was won by 3KX and 3KX tx hunt and the ladies all for the best lunch ever.

Our thanks go to all who did the events, to so many of us to those who gave the prizes, especially to the VIs and XYIs who made the lunch and afternoon tea, and to Eric 3ANQ, Judy and Mrs. Giddings who did the 1000 mile prize. The ladies also did a crop up. Lastly a special thank you to our visitors, David 5AW, Roy 3ZFM, Reg 3ZER, Eric 3ZEEZ, and many others. We hope to attend the zone meeting on behalf of the State Council and who arrived just too late with a most dubious excuse?

The W.I.C.E.N. operators met under the chairmanship of Jim 3ABT, the retiring coordinator and zone control station. Jim declined re-election to the position of coordinator and Pat 3ADN will be asked to do that job. The position of control station is to be rotated around the members. Sheds will remain at two per month. We hope to get on to some traffic handling very soon. Bill 3XE caused a stir by pressing for the use of c.w. and was (naturally) supported by SAKN and Bob 3IC. Result was, however, inconclusive.

One result of the Convention at this location was the need for a link with Eric 3ANQ during the weeks previous and it was a pleasure indeed to meet him on his own ground, his beloved two metres. Quite a bit of activity was, too. David 5AW and Gordon 3ZCF had mammoth signals. Gordon has over 100 stations confirmed and is waiting for his 100 Award Certificate. He is building gear for 2880 kHz. Brian 3XN has also been busy with the new a.c. extension to the R/T link with VK7 land. Other mighty signals emanate from 3XN. Reg 3ZFX has a new 1000 watt and Geoff 3ZFX. Reg's rig is one of those poultry farm sort and we couldn't (shame on us) unscramble it, but we will, never fear.

Brian 3XN has also been busy with this band with stabilised (?) gear and others nearly ready include John 3ARJ and Bill 3ZFG. Bill 3XE has drawn a 522 from the institute and will no doubt be starter.

We also have made a rather shaky start on the 50 mx band to meet Bill 3ZFG at home. He has intention of the Z part of the Z part with the help of Peter 3FX who can be heard using the key most nights for practice. John 3AMC and Eric 3XL are very active on 80 mx still.

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VK-KZ CONTEST

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C.W.: 7th OCT. and 8th OCT.

1000 hrs. GMT to 1000 hrs. GMT

John hopes to have the break-in and vox working shortly and also the new 6 mx converter. Eric has been working Harry 3AJE regularly. The 3ZL has a new gear plate modulated on this band. It is interesting for 2 mx contacts but, alas, appears to have been seduced by Thorb 3AP5 into looking for DX again. Peter 3ZL who can run the QQ80/20. Norm 3JEG has taken time off to get mobile during the Convention. Norm and Les 3BD have been getting DX cards by proxy for some time. Peter 3ZL has been writing several chaps and appears to be a local for he apparently uses 3AWQ also.

Peter 3APK has been polishing up the Gee-whizz Club 3AGI and put it on the air using vox too. Jack 3JX has a little black box tightly screwed up which he uses occasionally. Modulator is a nice shiny piece of brass. Welcome to Ron 3ZL who can run from 14.250 Mc. and will answer any DX calls as soon as that bug in the rx has been squashed. Val 3UT has the urge again for 20 mc. and is getting good reports off the long wire antenna. Keith, the I.W.I., has reverted to the other extreme now and has confirmation from Vladivostok. Also, Keith is waiting for confirmation from 3AKN on the 144 Mc. band. Welcome to Ron 3ZL who can run from 14.250 Mc. quite a varied diet!

Kerry 3AXT has been visiting VK3 and was the star of the 3JG set up. He has been visiting Harry 3HF and Harry 3XI are in the news again. The latest from 3HF is the radio controlled lawn mower which will do the job quite well. It is a pity that the 3JG set up is not working. (There would be a catch in it somewhere) 3XI located a young 3ZL boy whose father had died suddenly and whom the police were unable to locate. A nice bit of work over Amateur bands. Tony 3WB is still working from that mobile but during the Convention pressed into service that old war-torn VL3K1/3K2/3JD mobile 5 which rest with him over the winter. That outfit has to be seen to be believed and what a mighty signal. Welcome to 3JG who was the first to go to John 3AGD and Garland on the arrival of Olive VL.

The 3JG play from 3WI on 3.5 Mc. has been heard well over the zone area and at Jubilee Park during the Convention was only about one S point lower than the 7 Mc. transmission, both signal and loudspeaker copy from the mobile whips.

The only portable noted during the Convention was Kevin 3AKR portable at Puckapunyal, using a 3JG set up. He was using a string. And so from here it is GRU. Thank you all who helped with these notes over the past few days. Welcome to 3JG who was the first for Eric 3ANQ who will now be doing the whole of the zone publicity work. It's over to you, Eric, and cheerio all! Best DX to you and may your r.f. never grow less. 73, 3AKN.

EASTERN ZONE

The Eastern Zone Convention, held at Yarram on April 8, resulted in a further burst of activity throughout the zone. Keep it up chaps.

30 mx zone hook-ups have been held every Sunday morning at 9.30 a.m. with 3QZ, 3AIT, 3DY, 3QH, 3PR, 3BB, 3NY and John Batterick running regular programs. It was wonderful to see the other members of the zone and the switches on and add to the QRM on 3650 kc. on Sunday morning at 9.30—no tv. to worry about. Ugh! At 10.00 a.m. 3JG took honours by replying to 3WI. The 3 and 6 mx boys in the zone are quite active, with 3DY, 3QZ, 3ZAB and 3ZAG burning up the air every Thursday evening. Ron 3JEG had a few boys down in Melbourne, with Peter 3ZPD following in his footsteps—just to show that it can be done. Will 3JG be getting more 2 mx signals on a Thursday night chaps?

Peter 3ZPD at the moment in a lot of trouble trying to tame a QQ80/60; think I will have to get into the tile business and then I may be able to. Write me and I will look and. Maybe Peter if you write to Phillips they will bring some with nice pink plates.

The zone held a field day at Yarral Creek on Sunday, April 30. Bill and Les 3JG for the day. Alf McCrell, was able to welcome 22 people. Some of the boys went real Indian style. Comanche and Cheyenne type to be exact. Really worked too, with owner operator Bill 3AMH working some nice DX. A very hearty welcome to the zone. Bill and Les 3JG and chain on your gear is in order as all the boys really went for your outfit. While the boys were working in the Ham Radio style, the VKs and harmonics were gathered in the mushroom. Look what you city boys missed by not at-

tending. Thanks Alf and Mrs. McCrell for a very enjoyable outing.

David 3DY working nice DX on 28 Mc. with a Russian station his best. David warmed his beam up with a couple of VKW's the other night so that could be the reason that the DX now rolls in. Sorry to lose George 3ZCG from the zone, our mutual friend. I'll appear before a lot of luck. George, 3ASS, 3ZBD, 3DY and 3ZAG occasionally work Melbourne on 2 mx and regularly work each other.

The Morwell High School Radio Club will soon be on the v.h.f. bands, as John Anderson has loaned his gear to the cause. Should any Ham, radio club, with particular emphasis on school radio clubs like a contact with the Morwell High School, would they contact 3BB or the Eastern Zone Secretary. Listen for the club on the air of Thursday evening and chaps, the welcome door-mat is out to anybody who likes to talk personally.

WANGARATTA HOBBIES EXHIBITION

This Exhibition was held in the Wangaratta Drill Hall on Friday and Saturday, 27th and 28th April, and was organised by the Lions Club for charity.

Hobbies stated included Scouting, guiding, pottery making, sewing, aircraft modelling, railway modelling, cycling, amateur radio, photography, computer, model making, model bath, posing for amateur photographers, woodwork, and a stand of dolls dressed in different national costumes.

The Amateur Radio stand was set up by Bruce 3QC, assisted by Noel 3ANS and a.w.I. John Maylands. John is a very keen a.w.I. and expects to see the air of Thursday evening in not too distant future. We're looking forward to his RRM. Tx used was 807 70w. plate and screen modulated to a 132 ft. dipole, cente fed with twin disc Centre of the dipole was top of the roof gable, the ends being supported by a tree one end, a kind neighbour's fence at the other. Tx used was an HRO, the whole station being Bruce's home station.

Acoustics of the hall in general were lousy, and we had a lot of trouble with p.a. loudspeakers, projector loudspeakers going flat out, etc. The din was appalling. On top of physical noises, we had some electrical ones from sewing machines, drills, band saws, model trains, etc.

Thirty stations were contacted altogether, including a few ZLs. We used 49 mx on Sat. afternoon, and 80 mx after tea on Fri. and Sat. afternoon. 80 mx was the best. 20 mhz signals were heard quite well despite the racket.

We found in the crowd a few radio minded young lads, and one or two lads (not as young) but still radio minded. One gentleman I remember gave up his call sign 3AS about 1930.

We met young Andrew Skewes, who is sitting for the ticket in Melbourne. Andrew is 15, still goes to school, but isn't lacking in ability on the microphone. Had to practically drag him away from it.

Another visitor to the Ham shack was Miss Janice Webb. Janice showed a keen interest in radio and very capably held a QSO with me at 14.250 Mc. I was very glad to have a great asset to the shack. It was evidently a noticeable increase in interest, both in the

audience and on the air. Her voice was perfect (we sneaked a listen in the monitor) and we are of the opinion that her presence gained us a few more contacts. John 3JG has a new 6 mx display, namely pottery, so 3ANS tried his hand at the pottery and took home a vase as proof of his ability at "blowing" it.

Amongst the equipment displayed, were a Command rx, Compass rx, Eddystone rx, g.d.o., c.r.o., AT5 and 3Z2 tx-rx. A centre loaded whip and a 40 ft. 2 mx beam. A display, and some technical books on valve data, A.R.R.L., etc., completed the picture. A particularly fine piece of equipment was Bruce's portable tx. This unit is a very compact rig, runs 1 3Z5 to 23w. with Class B modulation. The rx side is all there too. Amplified a.v.c. was used to effect. When the rx is used to relay operator's voice to the audience, who had trouble hearing the operator during transmit periods. The problem was overcome by turning on this portable to hear the main tx.

Keen interest was shown in our stand and we think our stand was as popular as any other—apart from the bubble-bath!

MELBOURNE UNIVERSITY AMATEUR RADIO CLUB

The club is functioning this year in much the same manner as before, meetings are being held in the 3JG compact rig, runs 1 3Z5 to 23w. on a fortnight. The next meeting is on Friday, 9th June, 7.30 p.m.

The club has a very active field, and the committee for 1961 is as follows: President, Michael 3ZCZ; Secretary, Duncan 3JQ; Treasurer, Ian 3ZHR; Committee (elected): Max 3ZL, 3ZAB, 3ZAG, 3ZBD, 3ZCZ, 3ZD, 3ZE, 3ZF, 3ZG, 3ZH, 3ZI, 3ZJ, 3ZK, 3ZL, 3ZM, 3ZN, 3ZO, 3ZP, 3ZQ, 3ZR, 3ZS, 3ZT, 3ZU, 3ZV, 3ZW, 3ZX, 3ZY, 3ZZ.

The boys are still searching for a "home" for the club station, 3ATM, as pressure on accommodation at the University is very great, this is a difficult task. The club equipment is being recognised and they should be on the air again soon.

Plans are in hand for a club "do" on 1962 National Field Day. What about you organising a zone or zone, or some other group, show next year?

QUEENSLAND

TOWNSVILLE

With the merging of summer into winter, we always looked forward to a change in the band conditions, but reluctant to say, this has been effected up to expectation. Some nice DX has broken through on rare occasions. It can truthfully be said no new countries heard for quite a long while and those that were heard were the first touches no longer heard. Maybe that is the reason for lack of operation by the locals. One time there were always a few on each band, but now it appears they are otherwise. One or two re-building s.s.b. units, while Eddie 4WII, who has not been on the air for some time, has been the first to touch his hi-fi which will have tomorrow's inventions today.

Most welcome visit was paid by Middy and Mavis, 251CD, who, after touring New Zealand, were prevailed upon to come up to sunny North Queensland and see our beautiful scenery. DX was not too good, but the places around Townsville before sending along to Basil 4ZW in Cairns to do the honours. No report as yet of their travelling in the district. Fleeting news from Rick 4WV has at last graduated from the laundry to a room upstairs which has been vacated by his son 4ZAP on a recent marriage. No more transfers, no more losses due to moisture, etc. Will be able to chase the DX now in comfort.

At the last meeting of the local club, the tape sent along by 4WJ on tv. interference was played to show the effect. No interference seemed to be the highest on the complaints side, while the Amateur is well down the whistles that the local tv. station will definitely be placed on Main Stuart and served by a scenic road. So we still have a period of grace before worrying about tv. green.

Also at the club meeting it was decided to make Evelyn Bahr a honorary member in recognition of the first lady to gain a licence from Queensland (twice) and the first lady to receive a 3ZYL of Charlie 4BQ, who can be heard on most bands.

ALUX returned from a sojourn in the southern States, brought back wealth of literature for the boys. The local Z boys can be heard each evening working the JAs on 56 Mc. V86 promises to open up in the near future. No K16 there at present. 73, 4RW.

W.I.A.—QUEENSLAND DIV.



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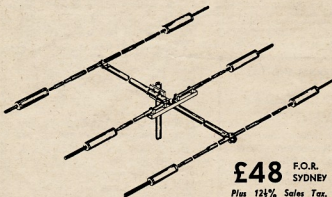
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News that Pat SLT had pulled on came as a shock to those who knew him personally and also to those whom he had contacted on his beloved 14 Mc. both in and out of VK. Active in the VKA, he was known as being a fair member, from Port Lincoln, it is only recently that he came over to Adelaide to reside and resume his Amateur activities suspended during his shock of 1971. To his relatives we extend our deepest sympathy and trust that time will ease the burden of sorrow.

Returning from my much publicised vacation, found myself in the position of Mother Hubbard and her well known cupboard. My spies had transferred their allegiance to the "King of the Ducktalk" and looked like never coming back. A call to Keith SWL, a cracking of the whip by this truculent gentleman, a coming to heel of all concerned, and all was well. Thanks, Keith.

Norm Colman, my genial co-auctioneer at the Divisional meeting nights, has been a very busy man over these last few weeks, and it is somewhat surprising that he has not been "Soup and Fish" he is Master of all he surveys. Good luck to you Norm. If ever a man has earned it, you certainly have.

Normally, nothing would seem to remain but for me to close these notes and settle back in a state of somnolence—somnol—somnolles—well, anyway, settle back and go to sleep for another month, but I cannot do so without thanking Comps SEP for so ably filling in for me last month, even if in doing so he tore my good name to threads, and so nobly. The standard for 1971-72. His remark that at this time of each year Council takes a square look at the previous year's notes, confirms what I have been saying for years. "Square" is an apt description, and to those of us who move with the times and are "HeP" to modern thought, "Square" was uncannily descriptive. Anybody who takes all this time to write these shots a year captured at one, and if our barely concealed dislike of our individual members is not a little wider than the boundaries of the Divisional notes, then we are both doing a little towards the greatest hobby, bar none. Please stand by to resolve my "Compliments to Comps SEP" and to the Hon. Snort, Bleep-Bleep, and a couple of pipopaps! Oh, by the way, these days all Divisional notes seem to end with the call sign, so why not mine? GFS (PANS) to you).

WESTERN AUSTRALIA

The main event for this month was the Annual Meeting held in the Mend St. Hall, South Perth, which was attended by some fifty members including representatives of the S.W.I. Group and some visitors. Among these was GYO who does not appear among us often enough. Business was rather prolonged and the meeting ended rather late. A motion before the meeting caused some spirited debating and was finally decided in the negative. The election of Council produced some surprises, but the new members are welcomed and we trust they will carry on the good work of past Councils.

Activity on the h.f. bands has been quite brisk most nights, now the bands are entering their winter stability and becoming very popular. Several new call signs are heard such as 4CL, 6DC, 6GJ, 6R and others. We are getting quite a kennel of "Doggies" as well as the "Crazy Gang" 6CL, 6CW, etc.

The slow Morse sessions are well under way, thanks to the good efforts of 6PH and 6WV and the help of the other members. The listeners obtain their full tickets, they will acknowledge the help they have received. The 100% GDR has been a success. The GDR has done well. Bill has not had his licence long, but puts out a very good signal on the home-brew set. He even built his own wave meter.

6KJ and 6WL manage some contacts between t.v. sessions but all the boys in the fringe areas are doing well. The VKA has been helpful. VKZZL could give them some hints. Heard

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a whisper 6CS is going to a fringe area so will have his share of t.v. 6RW and 6BU often heard mobile on 40 mx, and of course 6XO on his visits to 6KJ's QTH. How is the fishing? 6HUT 6BL is going to the bank. It is quite active with his 10w, and has many years of activity in front of him. One voice which will be missed in future is that of 6CO. Joe is on his way to journey and hopes to be on the air soon with a VR2 call sign—CO for preference. Good luck Joe, and hope to hear you soon on 20 mx or perhaps 40 mx. The Crazy Gang 6X will miss him. 6JW spent many hours on a mobile rig for his car, hoping to use it on the last long weekend. However, his journey was a great success, obviously not a Ham, crashed the back of his car and the result was no mobile activity. Bad luck John and hope to hear you soon. At the same time, a checking of his 40 friends lately and was heard on his 122 portable. The ether fairly hummed during his wanderings.

S.A.B. is becoming a popular topic of rag chews and may be necessary the way the bands are becoming crowded. 6JO and 6MM can be heard on 40 mx. 6JW is planning to convert a.m. stalwarts. 6CL is interested in it or will be when he finishes digging up the worms. 73, 6PH, per 6ZCK.

TASMANIA

April 1961 can be regarded as a high spot in VKT. First, we now have the v.h.f. notes on 2 m. 6WV and 6JW. 6JW is now on the original transmitted on the 50 Mc. band, then re-radiated over TWI, and this advance can only be regarded as a step in the right direction, and gives publicity to a very important segment of Amateur activity within this Division. Secondly, TACT has begun to re-radiate the TWI broadcasts on 80 MHz so that those who live in the North-Western Zones will now be ensured of hearing the official broadcasts, no matter what the conditions. The stations appreciate reports on the 80 mx transmissions.

On 18th April, a most enjoyable fox hunt on both the 3.5 and 144 Mc. bands was conducted, and went back to the 144 Mc. band. The mobile 3.5 Mc. tx, and Reg ZTAO for operating the mobile 144 Mc. tx. Again, this exercise showed that the excellent band the 144 Mc. band is for functions such as this. After the conclusion of the fox hunt, we all proceeded to the home of Brian T2BE, where sausages and other meats were cooked over a beautiful fire, and the supper was completed by about the best coffee I have ever tasted. Thank you Brian for your co-operation.

The club room fund received 22/15/- from the function, but we were disappointed in the roll up, and we ask for better support at the functions to come. The club room fund also benefited by 22/3/0 from the raffie of a fowl at the May general meeting.

Bill TTY, his wife Francie, and daughter Helen returned home after their wonderful journey to Bondi via Sydney in mid-April. It is most interesting to talk to them about their holiday, and I personally found the stories about wrecked ships on the south-west coast of particular interest.

During April, Bert 3KU and Mrs. Clarke were amongst us. Bert tells me he is still a naturalised VK7 despite his removal from the state some years ago, and his licence was also within our jurisdiction for a few days and we hope you have returned home safely after a pleasant stay.

We regret the decision of Lon TLJ to resign from the Federal Contest Committee. Lon has devoted himself to his work on this committee, and his ability to type has been invaluable. It has been his type to prepare the reports for publication of the results of the various contests over the past two years, but in addition to this he has attended the committee meetings, and has contributed more than his share to the checking of logs in such contests as the Remembrance Day, involving a time working unit to midnight three times a week. Your efforts have been appreciated Lon.

Budges, both full member and associate, are now held by this Division in good supply. The cost is five shillings per badge.

The last note is somewhat discordant; the annual dinner was a great success, except financially, due to the failure of ten acceptors not attending their subscription upon their future to pay. The Institute and to look for you and accordingly you pay for you. If you are at fault, please let us have your dinner subscription of a guinea per person and keep our finances satisfactory. 73, Ian, TZZ.

NORTH WESTERN ZONE

Had the privilege of a quick visit to VK3 in April. 3AM was my guide and we saw 3APL, 3OM, 3AHN and 3ARZ. Two things were most impressive, first the hospitality, and secondly, the very fine installations in evidence.

Once again an 80 mx tx hunt was held, but with very poor attendance. Something will have to be done. The 80 guinea prize was won by the bid himself very well. Later it developed into a mobile "catch me if you can" stunt which was thoroughly enjoyed by both parties.

The bimonthly social zone meeting for May developed into quite an auspicious occasion as we were the guests at the Burnie Fire Brigade. The night was devoted to the official handing over to the Brigade of two-way radio gear designed and constructed by members of this zone. Two vehicles roared away from the station and were controlled around town as a demonstration. Some very complimentary remarks came our way as a result of our effort and we came away too full for words—in more ways than one. This time it was Leon T7Y for the magnificent job he did in the final setting up and testing of the gear.

It has become the accepted thing now to hold hamfests in miniature at the Ferry terminal. This time it was the time to have a party with 6RU and SAX who had been "doing over" the Apple Isle. We look forward to meeting many more of the boys who anticipate visiting the mainland of the mainland.

The 80 mx band has been quite good for several weeks and we have had some good ZL contacts. Looks as though our Kiwi friends are visiting the mainland of the mainland.

Some interest is being taken in mobile gear around this way. It looks as though centre loaded whips will be the order of the day soon. It is a fact, however, that taking place with whips and someone will discover a new formula if not careful.

A spirited contest between TXL and TMS, both mobile, was heard the other night and a game of cat and mouse seemed to be in progress as they chased each other's frequency. Appears that the synchronisation of the automatic netting facilities, synonymous to master local oscillator, is increasing signal frequency requires slight adjustment David.

Heard TDA on the band the other night. Long time no hear David, so keep the heaters lit and turn the horizontal and vertical deflection off. Saw Sam T5M receive his usual package of QSL cards via the Bureau the other night. We usually we gaped and whispered, "how does he do it?"

Will conclude with another TMX story. Tried out the 20 mx band recently. Nothing but loud hash. Not a signal of any sort. Examined the feed line and found the horizontal and vertical feed line had dropped off cubical quad. Problem of the month—how to solder a new feeder on the quad 40 ft above ground? Answers must be the individual work of the contestant.

Cheers chaps, TMX.

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FOR SALE: Geloxx RX Front-End, c/w tubes, pwr. sup. (reg.), 12g. chassis, low Z o/p. £35. VK3JW or VK3ZIY at 48-5784.

SELL: Quantity unused crystals, mainly FT243 7 Mc. Send for list; cheap. Also new Grace magnetic stereo cartridge with transistor preamplifier; outstanding performer; cheap. Roth Jones, 131 Queen Street, Melbourne, Vic.

ARTISTRY

IN

Ceramics



ARTISTRY IN CERAMICS

Ceramics play such an important part in our modern way of life that most people take them for granted. Yet ceramic goods have been made and used by men since the dawn of time and the art of the Potter is more ancient than the Pyramids.

Egypt and China were the first civilisations to decorate their pottery, usually by means of coloured clays and glazes. These early advances were improved upon mainly in Greece, where artistic designs began to appear, until by the end of the Hellenic era, there were artists and sculptors specialising in painting and designing pottery.

Throughout Europe, and in particular, in Italy and France, the Potter's natural instinct to combine his artistry with everyday articles steadily developed, and, after the Renaissance of the fifteenth century, many examples of breathtaking beauty were produced.

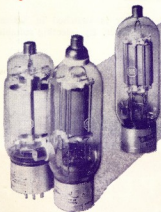
In later years the production of fine porcelain, bone china and pottery has centred in England and Germany, where modern craftsmen have shown that far from dying out, the art of the Potter is flourishing.

At the Amalgamated Wireless Valve Company, Australia's largest valve manufacturers, ceramics are used for their excellent qualities as insulators of high voltages, particularly at high radio frequencies. Moreover, few materials are pure enough for use in the high vacuum within the envelope of a power valve and certain ceramics are ideal in this respect.

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This superb S.S.B. Transmitter features:-

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- Unwanted sideband suppression 40 db. down at 2 Kc. or better.
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- Five bands, 10-80 metres, Pi output.
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- Full voice control and anti-trip system.

The S.S.B. Generator:

The exciter section of this S.S.B. transmitter employs a crystal filter based upon the G2NH design. A 12AU7 is used as a 435 Kc. crystal oscillator and phase splitter to drive the balanced modulator at low impedance. The balanced modulator consists of a matched pair of crystal diodes into which audio is fed at low impedance. The modulated signal is then passed through a half lattice filter which rejects the unwanted sideband and provides a passband flat within 3 db. between 250 and 2,800 c.p.s. Four crystals, vacuum mounted in BTG valve envelopes, are employed (two in the half lattice filter, one carrier oscillator and one series rejector at carrier frequency). The lower sideband generated is amplified and fed to the grids of a second balanced modulator (or 1st mixer). The output of the V.F.O. is balanced out in the anode circuit of this balanced modulator. The resultant 80 metre output is available for amplification and, being lower sideband, is suitable for operation on this band.

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